282. A special watch has to be kept on the nature of the diseases encountered. Since this is a new industry, there is a possibility that quarantine regulations on imports of live fish are not properly codified or are not strictly enforced. Thus, a new disease may be introduced into the country to the detriment of the interests of the insurance industry. This underscores the necessity of maintaining a close liaison with the fishery and other concerned departments of the Government.

283. The underwriting of offshore aquaculture farms requires special care. The direction of the sea current influences the exchanges of water and thus the oxygen supply, as well as the removal of germs and faeces. If the sea is rough, access to the stock may be restricted. Furthermore, to avoid accidents the cages should not be close to shipping routes. The strength of the cages and moorings to withstand the current is vital. Generally speaking, aquaculture in sea cages requires less capital investment, but on the other hand, the means of stock control are much more limited than in the case of pond culture. Nets have to be cleaned regularly of shellfish and algae growth. Signs of diseases are less easily observed, and water quality aspects such as salinity, temperature, oxygen content and density of germs are more difficult to control. 66/

284. It should be noted that the insurance provided in India, as discussed in this chapter, is a restricted cover. It provides indemnification only if more than 80 per cent of the fish perish. Furthermore, stringent conditions have been laid down. Thus, it is possible to take care of unfamiliar and difficult lines of agricultural insurance by restricting the cover and developing the necessary safeguard measures. Wherever required, special warranties may be introduced. Since this is a new and evolving line of business, the terms and conditions of insurance should not be taken as static, but should be reviewed, based on experience, as often as necessary.

Chapter VI

INSURANCE BUSINESS IN AND RELATED TO THE RURAL SECTOR

Introduction

285. Insurance plays a role in protecting investments and safeguarding economic activities. There are several opportunities for extending insurance services to rural areas that normally do not attract attention. This is partly because there is a certain preoccupation with insurance lines directly related to agriculture, such as crops, livestock, poultry, aquaculture, etc., and partly because the volume of readily available business is not perceived to be commensurate with the infrastructure and resources required. However, entering the rural areas and establishing a presence there with readily manageable products need not be very costly, and in the long run could provide a base for the expansion of regular lines of business as well.

286. Regarding the types of insurance available to farmers, the following number of countries out of 44 which provided information in response to the UNCTAD secretariat questionnaire reported availability of specific covers as follows: agricultural equipment insurance 23, storage insurance 21, agricultural processing undertaken by farmers 11, and agricultural liability insurance 11. To another question regarding the availability of some of the standard insurance covers to the rural population, the response was as follows: life insurance 24, personal accident 19, personal sickness 10, personal liability 6. To another question, 17 countries reported that financial institutions require farmers to have life insurance when giving credit to them.

A. Dwellings, stables, stores and shops

287. Generally speaking, these may be inferior in design and material compared to those in urban areas. Insurance may be difficult for shanty and non-permanent types of structure, but others with corrugated iron, tin or thatched roofs may be considered. The risk is admittedly higher, not only because of the poorer construction but also because the fire fighting facilities are usually far away. On the other hand, accumulation in terms of values insured is not likely to aggregate to a high amount. Statistics of the historical burning cost of such risks may not be available and rating would have to be done on the basis of a loading, hopefully modest, on premium rates for similar though better constructed buildings in urban areas. If the dwellings, shops, etc., are insured on a group basis, reasonable bulk discounts may be given.

288. Insurance contracts are commonly perceived as taking away through the "fine print" the benefits the insured expects. This refers to the Conditions and Warranties which are an integral part of the contract. It is true that the wordings have been established on the basis of experience and legal reviews of disputed cases. None the less, an opportunity could be taken to simplify them by expressing the intention more directly in simple language

instead of in a legalistic manner. Furthermore, separate wordings should be evolved for simple risks in rural surroundings. Some of the standard clauses are not relevant or are difficult or costly to enforce. For example, clauses pertaining to Right of Entry, Alteration, Storage of Hazardous Goods are often irrelevant for a small and simple risk situated in the countryside.

289. Insurance of property is on the basis of "average" (meaning that the amount of loss is adjusted downwards in the proportion borne by the sum insured to the full value at risk), on the grounds that the insured is deemed to be self-insured for the difference, but this concept is difficult for a rural client to understand. In the United Kingdom the condition of average is not applied on risks such as a building occupied solely for private residential purposes and household goods and personal effects therein, a building and its contents used wholly or mainly for public religious worship, ... a hall or Sunday School. Furthermore, a special condition of average is applied to insurance of agricultural produce whereby the insured is entitled to receive the claim in full without application of average so long as insurance is for not less than 75 per cent of the total value at risk. 67/ Another solution would be to fix the sum insured slightly on the higher side so that the problem of under-insurance is avoided and the contract can be made on an "agreed value" basis. A small amount may also be provided for the contents of the dwelling in terms of a percentage, say 20 per cent, of the amount insured for the dwelling. For shops the sum insured for the contents will have to be separately determined.

B. Equipment and machinery

290. This includes tractors, trailers, power tillers, harvesters, threshers, pumps, pedal cycles, windmills, solar cookers and heaters, biogas units, etc. These and similar mechanical devices are gradually entering the agricultural sector of developing countries. The level is admittedly still low. However, the rate of increase is higher in the developing countries than for the world average, as will be seen from table 6 in respect of tractors and harvester-threshers. The numbers are small, but none the less afford an opportunity to insurance companies.

291. Premium rates and terms and conditions of insurance for tractors, trailers and power tillers are determined in some countries under the motor insurance tariff. If this is not the case, either the appropriate authority or the insurance company may finalize the terms and conditions, bearing in mind that the risk of bodily injury to a third party with consequent high compensation awards is minimal as these vehicles move very slowly and normally not on public roads. Primarily the basic risk of fire and damage has to be covered. Care has to be taken to ensure that normal wear and tear and maintenance costs are not shifted to the insurer. This applies particularly to threshers and harvesters. For pump sets driven by electricity the risk of breakdown or burning of the coil due to fluctuations in voltage will have to be covered. The rate will have to be empirically fixed.

292. Risks of theft and robbery require consideration. Their frequency and gravity depend to a large extent upon the law and order conditions in the country. Generally speaking, however, the business is not very risky. A

kind of camaraderie prevails in the rural areas, and the fear of getting a bad name in the community in the case of a wrong claim is real. Repeated interaction with the same people makes reputation very important.

Table 6

Increase in numbers of tractors and harvester-threshers between 1978-1981 and 1990

	1978-1981	1990	Percentage increase
	Tractors		
World	21,923,232	26,239,808	19.68
Developing countries of Africa	282,381	395,293	39.98
Developing countries of America	885,671	1,099,965	24.19
Developing countries of Asia	2,080,854	3,298,675	58.52
	Harvester-threshers		
World	3,472,238	3,945,096	13.6
Developing countries of Africa	15,860	23,385	47.45
Developing countries of America	99,480	115,910	16.51
Developing countries of Asia	70,384	115,059	63.47

Source: FAO, Production Yearbook, vol. 44 (Rome, 1990).

C. Handicrafts and household production, and the small sector

293. Farmers and others living in rural areas, particularly in the traditional and emerging sectors, engage in various types of manufacturing activities that are of an elementary nature. The equipment used is not sophisticated and the process is often labour intensive. This is a part of the informal sector, and is often described as the "tiny sector". In the rural areas a sizeable amount of economic activity is also gradually emerging in the small production sector. Furthermore, informal construction, transport and services sectors are building up. Insurance needs of these units should be investigated and met to the extent possible. The problems are similar to those noted elsewhere. Units are widespread, their size is small, no a priori information or statistics are available, there is no institutional framework since they are not licensed or registered, cost of delivery of service is high, and the activity may not be productive enough to afford the required premium. But this need not be the case in all instances, and it would be improper to overlook this sector completely. If insurance companies make a determined effort to explore the possibilities of offering suitable covers, workable solutions can be found. Much of what has been said about simplification of administrative procedures and terms and conditions of insurance policies also applies here. A rating structure that is simple and flexible would have to be evolved. In some countries the people in this sector are organized in cooperatives, or market their output through a

cooperative, marketing board, or aid organization. In some cases a suitable group cover can be developed.

D. Accident and hospitalization

294. Insurance protects assets and for a person in a rural area, his life and limbs are his most precious asset. A large number of accidents take place. These occur on farms to persons operating threshers and other farm machines, and who work in the production of handicrafts, in households, and in the small production and service sectors. The hazards are compounded as the equipment and machinery is often indigenously assembled or made, or is repaired with unsuitable parts and has not gone through safety tests. Labourers and others are often exposed to chemicals and pesticides, etc. which are highly toxic but continue to be used, although they are banned or severely restricted in many developed countries. Severe occupational hazards exist, sometimes resulting in disablement or the contraction of major diseases, which may be terminal. Snake bites, attacks by animals, drowning in rivers, etc. are common hazards. There is no systematic compensation. Also, in countries where third party motor insurance is not compulsory, those who are maimed and the heirs of those who are killed in road accidents do not receive adequate monetary compensation. There is, thus, a great need to provide personal accident insurance to various sections of the rural community. Not only farmers, but others involved in services in the rural sector, such as those engaged in transport services, distribution and local trade also require personal accident insurance. Accident insurance contracts usually provide for weekly compensation for the limited period during which the person is immobilized for loss of earning capacity, in addition to a lump sum payment and reimbursement of medical treatment. Some of these benefits may be pruned to keep the cost low.

295. One way to attract the interest of the rural people to accident insurance is to make provision for a reasonable amount for funeral expenses, in addition to the capital amount of the policy. The cost could be built into the premium. It has been the general experience that heirs of the deceased in the rural areas of developing countries often squander the money received, and, with the breadwinner gone, soon become destitute. Insurance companies may examine the possibility of introducing a provision in the contract to the effect that a part, say half, of the amount receivable will be deposited in a bank for, say, 10 to 15 years so that the family can continue to receive an amount annually by way of interest. Even if this is not possible, attempts could be made to persuade the beneficiaries, through the help of social workers, to keep a part of the amount invested in some acceptable form, e.g. deposit in a post office, to yield regular income.

296. It is difficult to develop personal accident business in rural areas on an individual basis, and a group approach is suggested. It has been successfully attempted in India. A simple and modified version of a personal accident policy for a limited amount has been sold on a group basis in many instances. Through the National Federation of Fishermen's Cooperatives Ltd. (FISHCOPFED) over 560,000 fishermen have been given personal accident insurance. FISHCOPFED takes a group accident policy on behalf of its members. It has also been appointed as an agent of the insurance company, and for the commission received it undertakes several administrative

functions, such as collection and accounting of premiums, informing fishermen that they have been insured, collection and initial processing of claim documents, identification of the beneficiary and disbursement of the claim amount on receiving it from the insurance company, publicity, etc. A group policy has also been provided to handloom weavers, which covers accidental death and injury that is the sole and direct cause of loss of sight in one or both eyes, or loss of limbs (making them incapable of continuing in their profession). Furthermore, loss sustained by the sponsoring organization due to embezzlement, larceny or fraudulent conversion of yarn given to a weaver for weaving is also covered. Group personal accident covers have also been provided to those who climb tall coconut or palm trees for extraction of juice or to pick the fruit. There is considerable scope for developing similar policies for other productive segments of the non-urban population, if possible in cooperation with associations that cater to their needs and interests. The latter can also be of great help in marketing the respective covers and assisting in their management.

297. Hospitalization insurance is another potential area for market expansion. Medical insurance for ordinary diseases and treatment taken at home, normally described as domiciliary treatment, is not as yet available or stabilized in a large number of developing countries even in the urban centres, and its introduction in rural areas will take time. However, there is scope for providing "hospitalization only" insurance. A person gets admitted as an in-patient only when he is seriously ill or requires surgical intervention. The policy could be valid for "approved" hospitals only, and caps could be put on various items, such as bed charges, surgery and anaesthetic fees, operations, room charges, medicines, etc. In addition, limited out-patient treatment in government and other recognized hospitals where records are kept may be considered. Insurance for selected named diseases can also be considered. Amounts could be modest. Nevertheless, a much needed service would have been provided and through it additional business can be generated for insurance companies. In India, hospitalization insurance has been provided to all those who deposit monies in a bank operating in rural areas. The benefit of the group discount, which is sizeable, is passed on to the depositor. Through this arrangement he is able to get hospitalization insurance by paying a much lower amount, and this acts as an inducement to make the deposit. Similar arrangements have been made by two banks with an insurance company in Nigeria. Free accidental death and hospitalization income insurance is provided for specified amounts to current and savings account holders. These tie-up arrangements also demonstrate the beneficial effects of close cooperation between the banking and insurance sectors.

E. Life insurance

298. There is considerable scope for extension of life insurance in rural areas, both as an instrument of saving and to cover the risk of premature death. Banks often require life insurance for the person to whom credit is given. It would appear that life insurance organizations have not so far made determined efforts to formulate relevant products and evolve marketing strategies to penetrate rural areas. A few possible approaches are discussed below.

299. Emphasis has to be put on group sales. Contacting persons individually, explaining the benefits and concluding the contract would be a costly proposal, particularly if the amount of cover is low, which would inevitably be the case due to the limited premium paying capacity. Mutual societies, cooperatives, workers' unions and other similar bodies could be fruitfully approached. An attempt could be made to form groups through the help of distributors of agricultural inputs, such as seeds or fertilizers, who could act as intermediaries or agents for all those who purchase supplies from them. Social and welfare organizations could also help in constituting a group. In Malaysia a large number of workers in palm oil plantations are covered through their union. In India groups of landless labourers, handloom weavers and members of milk cooperatives have been covered. Sweepers at railway stations and those employed by municipalities have also been insured. Admittedly these do not belong to the rural sector, but they give an indication that, whenever identifiable groups exist, it is possible to provide life insurance.

300. When a reasonably large group is involved, pre-acceptance medical examination may be dispensed with, first, because there would be a diversification of risks and, secondly, because the amount per person would be low. If there is sufficient spread age-wise, strict proof of age could also be dispensed with. Non-medical insurance, whenever attempted, has shown good results. The premium tables could be built for tranches of age, say, on a quinquennial basis. It would be easier to place persons in age groups in this manner. The identity card system is prevalent in some countries. In others, in the absence of birth certificates a simple process of certification by a recognized but easily approachable authority may be stipulated. This has been done in India.

301. Premiums would have to be kept low so that the cover would be affordable by the persons concerned. Benefits such as a profit-sharing bonus could be dropped. In a large number of developing countries the family unit consists of at least two generations, i.e. father and grown-up son living together, and the hardship caused by the death of one of them is primarily the disappearance of an earning member. Under the circumstances, a term insurance or a policy with a low savings element may be more relevant. A high inflation rate is often witnessed in developing countries, and term insurance is more suitable from this point of view as well.

302. Administrative requirements such as intimation of change of address may also be modified. Attempts should be made to complete in advance and at the inception of the policy the various formalities which are normally required at the time of claim processing, such as proof of age and a decision about the proper recipient of the benefit, by completing the nomination clause.

303. The possibility of collection of premium on an easy weekly or monthly basis rather than on an annual basis, as in the case of industrial workers' insurance, may be explored. This should be possible, for example, in the case of agricultural labourers employed on a large farm or plantation, where the management can deduct the insurance premium instalments from their wages. Similarly, when a product is supplied to a specified agency (such as sugar-cane to a processing plant, or milk to a cooperative collection centre), the premium instalments can be collected out of payments due.

304. A linkage with institutions providing credit can be rewarding. The credit often leads to acquisition of a productive asset, and this enhances the economic level of the person. Life insurance becomes more meaningful. In fact, interesting life covers have sometimes been provided in conjunction with the savings and credit movement. An international mutual savings and credit movement with membership of over 1,818,000 persons and extending to more than 50 countries including Colombia, the Dominican Republic, El Salvador, Guatemala, Guyana, Honduras, Mexico, Malawi, Mauritius, Nigeria, Paraguay, Republic of Korea, Thailand, Tonga and Zambia, has the following life insurance covers for its members:

(a) If a member who has taken a loan dies or is permanently disabled, the outstanding balance is paid by the life insurance, the premium for which is paid by the Fund.

(b) For those who place their savings with the Fund, a life insurance in the event of premature death for an amount equal to the savings is provided, the premium for which is paid by the Fund. This is, of course, in addition to the savings accumulated.

(c) The members, their spouses and children are encouraged to join a limited group term life insurance with low premiums and a very simple health declaration upon joining. On the premise that as people grow older they generally need less life insurance since their children are financially less dependent on them, the benefits are reduced to 50 per cent of the coverage after 59 years of age. 68/

305. In many developing countries the Post Office keeps people's savings and also provides life insurance at low premium rates. Possibilities of establishing linkage and working arrangements with Post Offices should be explored, particularly as many of these Offices are located in remote areas, deep in the countryside, where formal insurance industry representation may be difficult.

306. While the group approach is a good strategy for taking life insurance to rural areas, individual life insurance would still be necessary to meet the specific needs of people in rural communities. One of the problems faced is that income fluctuates, and timely payment of uniform premiums over a period of years is not kept up. This causes discontinuation of the policy, or at least considerable loss in its value. If the products are so designed as to allow reasonable flexibility in payment of premium, the appeal of life insurance would be sustained. This might be possible by keeping alive the death benefit portion, and allowing flexibility on the savings portion. The marketing intermediary has also to be involved with collection of premium. 69/

F. Social security

307. The parastatal insurance bodies, including those that have specialized in agricultural insurance, are sometimes entrusted with the task of providing measures of social security for weaker sections of the population. These schemes are funded and supported by the government, but not necessarily confined to rural areas. The benefit of handling these schemes for the

insurance organization is that it is brought closer to the people involved. This also shows the confidence of the State in the insurance sector. Opportunities could be taken to propagate at the same time some of the insurance services discussed above. In Sri Lanka the Agricultural Insurance Board runs the Farmers' Pension and Social Benefit Scheme. It is a voluntary scheme open to farmers with certain restrictions in terms of age, land ownership and types of crops grown. Benefits are for total and permanent disability, for partial but permanent disability, death benefits, and a pension if the farmer survives after the age of 60, the amounts being linked to the age at entry. The farmer pays a contribution but the scheme is subsidized by the State. In India two schemes of social welfare for poor persons are funded by the Government, but managed by the insurance sector. First, compensation is provided for huts situated in rural areas and belonging to poor people (defined in terms of annual income), if destroyed by fire. Secondly, for a family whose annual income is below a defined poverty line, compensation is paid to surviving members if an earning member dies due to an accident. Accident is defined very widely and includes snake bite and poisoning. Certification is by State Government authorities.

G. Transport

308. Agricultural produce has to be transported to a warehouse or some other destination. In some countries there are procurement agencies and marketing organizations that will purchase the produce from the farm land and arrange for its transportation. In other countries the farmer has to deliver the produce to a given collection centre or market place and transportation is his responsibility. In both cases, transportation is involved, whether by the farmer or by the agency, and this can rightly be the subject of insurance. In many cases this risk is not insured. For well-organized procurement agencies, etc., insurance is often provided by city-based insurance companies. Insurance organizations providing services to the agricultural and rural sectors are nearer to the scene and can evaluate and manage these risks more efficiently. Government marketing organizations may consider insuring these services with the insurance company or companies that provide other rural and/or agricultural insurance covers. Quality of service has, of course, to be insisted upon.

309. There is also scope for insuring modes of transportation other than motor vehicles, for example, bullock carts, bicycles and pack animals. An attempt should be made to find workable solutions to the problems of the low amounts involved and the high cost of delivery of insurance services. From the
long-term point of view, once the infrastructure of insurance companies is extended to rural areas, this may be possible. For some of the products, such as milk, fish, flowers, etc., even slight transport delays can cause considerable loss. When the farmers use public transportation, which is reliable, insurance against breakdown with suitable franchise and deductibles can be considered. Similarly, spoilage of milk in chilling plants can be considered.

H. Storage

310. Considerable losses of agricultural produce occur at storage points, and the strengthening of these points is an essential element in the food management programmes of developing countries. The silo system is not yet well established in developing countries, but warehouses offering storage facilities are available. Cold storage for perishable goods has been established. The storage of the produce may be on behalf of the farmer or the trader, to be sold when prices are remunerative. Insurance is needed and should be in the domain of the agricultural insurer.

311. Insurance for deterioration of stocks in cold storage due to the breakdown of refrigeration facilities is a specialized line. It is often provided in conjunction with the machinery breakdown policy of the refrigeration plant. Terms and conditions have generally been standardized by now, although special conditions pertaining to maintenance of standby generators may have to be provided where there are frequent breakdowns of the public electricity supply.

I. Public liability

312. The concept of liability to a member of the public who sustains injury due to an act of omission or commission by the farming sector is not yet fully established in the developing countries. With increasing public awareness and expectations for compensation when negligence occurs, it can be anticipated that the relevant legal provisions will gradually be made. Already, insurance against liability of the owner of the farm is sometimes sought and is being provided in Algeria, Honduras, Israel, Morocco, Namibia and Nigeria. The limits of such covers are likely to be modest and a rating structure should be easy to evolve, based on the size of the farm, the nature of the risk, number of persons employed, etc. It should also be possible to obtain reinsurance support. Systems of employers' liability and workmen's compensation providing for payment to the labourer, on the other hand, have been established in many countries. This is yet another area which should receive the attention of agricultural insurers. In Sudan insurance is available for public liability arising out of aerial spraying of crops.

J. Infrastructure upgrading

313. Considerable investments are being made in this area and opportunities for insurance arise. Normally this is the direct responsibility of the State. The State usually does not insure its risks, although there are exceptions. In recent years, however, it has been found expedient to entrust certain tasks of the State to an autonomous body. Corporations have been established for the construction of warehouses and market places, for improving irrigation facilities, and for building roads and bridges. Whenever these organizations are run commercially and are financially accountable, there is scope for insurance. In fact, bridges are sometimes insured.

314. Insurance has been provided to a few State agencies in India for the failure of wells bored by them for irrigation purposes. In the first two years the experience was unsatisfactory, but improved when the insurance

company imposed conditions and technical specifications that must be observed for insurance to continue. An effective risk management benefit has thus been derived.

K. Export of produce

315. Developing countries are exporters of a variety of commodities, many of which are the products of the agricultural sector. Commercial agriculturalists and specialist production units may be directly shipping the produce, either in its original state or in a partly processed condition. The margins can be thin and the terms and conditions of insurance to cover transportation risks during the various stages are an important factor in the economics of the operation. For example, in the case of exports of tea from India and Sri Lanka, and palm oil from Malaysia, the plantations are greatly concerned about transportation insurance and its cost. The International Chamber of Commerce, in collaboration with the United Nations Economic Commission for Europe, has standardized the classification of the terms of shipment, and has grouped them in four categories: "E" - EXW (Ex Works); "F" - FCA (Free Carrier), FAS (Free Alongside Ship), FOB (Free on Board); "C" - CFR (Cost and Freight), CIF (Cost, Insurance and Freight), CPT (Carriage Paid To), and CIP (Carriage and Insurance Paid To); "D" - DAF (Delivered At Frontier), DES (Delivered Ex Ship), DEQ (Delivered Ex Quay - Duty Paid), DDU (Delivered Duty Unpaid), and DDP (Delivered Duty Paid). 70/ Under each of these contracts, the exporter or the shipper has to bear the responsibility for the safety of the goods up to a specified point. Since the subject of exports does not directly relate to agriculture, it will not be discussed here. Suffice it to say that, when examining the terms of export, the exporter should keep the following two aspects in view: first, the extent of his liability so that the safety of the goods up to the point of his responsibility is ensured, and, second, whether terms of shipment other than those that have been in vogue would not be more advantageous. It may be advisable to retain the risk as a part of risk management, based on the principle of self-insurance, up to a point further than is suggested by the importer, or it may be cheaper to insure in the local market. Often the importer arranges insurance in his country. It is generally believed, and this may be true in many instances, that the importer is in a position to obtain better rates and terms and conditions of insurance by virtue of the volume of imports from various destinations. In any case, the exporter should be encouraged to obtain quotations on various terms and explore the possibility of keeping the premiums within the country. As regards exports of food items, the weight, the condition and the quality are important factors. Sometimes, the importer wants delivery at the point of disembarkation in the foreign country. A variation in weight could occur due to change in moisture content, leakage or seepage. The condition may deteriorate if the journey gets delayed. An inherent vice present in the consignment may flare up. To the extent any of these are the responsibility of the exporter, insurance would have to be arranged. In particular, exports of marine products to developed countries have to conform to strict regulations in terms of bacteriological growth. Specifications are particularly strict in the United States of America, Canada, Japan and Australia. Insurance against the risk of rejection of the consignment by the appropriate authorities due to the presence of a certain micro-organism beyond a permissible limit may have to be provided. Reinsurance is available

in the international market, provided there is strict quality control and a pre-shipment inspection system. This is yet another instance when insurance as a tool of risk management works effectively.

L. Role of agricultural insurers

316. Insurance organizations connected with agricultural insurance are indeed aware of these opportunities and, in fact, many of them have developed lines of business other than crop insurance, but related to the concerns of the farmer and the rural scene in general. In France, in the portfolio of the GROUPAMA, the apex national organization of local insurance mutuals dedicated to agricultural insurance, crop, livestock, poultry and aquaculture insurance accounts for only 10 per cent of the total business. AGROSEGUROS of Venezuela provides a wide range of insurance services in the rural sector, crops and livestock being only 33.6 per cent of its total business. ADACA in the Dominican Republic offers life and personal accident insurance in addition to agricultural insurance. Similarly, the agricultural insurance organizations in Algeria, Morocco and Tunisia, constituted on a mutual basis, do not restrict their activities to providing insurance for crops (usually on a named peril basis for fire and hail risks), but cater to the insurance requirements of the agricultural sector as a whole including tractors, other vehicles, transport and third party covers. This is beneficial both to the farmer and to the insurance organization. Having insured his major risks pertaining to crops, livestock or poultry, the farmer is familiar with the concept of insurance and may now become interested in obtaining insurance for his other assets, and may find it easier to deal with the same organization. For the insurer, the cost of delivery could be less than for an outside insurer. Secondly, a more favourable return can be derived from investments made in awareness and marketing campaigns if additional business is generated. Most importantly, a better spread of risks is obtained. Insurance companies, whether in the private or public sector, engaged primarily in agricultural insurance should, therefore, reach out and endeavour to broaden their base by formulating strategies to provide comprehensive insurance services in their areas of operation. In some countries this may not be possible because of the restrictions placed by the legislation under which these organizations were set up. In such cases, wherever the prevailing socio-political environment would support such a move, amendments in the legislation could be sought.

Chapter VII

DEVELOPING INSURANCE MARKETS IN RURAL AREAS

Introduction

317. The penetration of insurance in most developing countries is poor. This is partly due to a low level of economic growth and partly to the fact that insurance has generally remained confined to urban areas. At the same time, the rural sector offers singular opportunities for expansion. Developing new insurance markets, particularly in the rural areas, is a long and gradual process. A careful establishment of priorities would facilitate efforts in this direction.

A. Suitable products

318. First, the insurance needs of the various sectors in rural areas could be usefully analysed. It is not necessary to insure all the risks faced. In business enterprises as well as in personal life many risks are not insured. It may be possible to contain or to retain some. Insurance for others could be costly and not worthwhile on cost-benefit considerations. Based on an assessment of effective demand, existing insurance products should be modified and new, attractive products should be devised. Not to give primacy to product development would be putting the cart before the horse. As has been noted, urban-oriented insurance companies can often enter the rural areas with the existing covers and packages available in the country, suitably simplified and modified. On the other hand, mutuals and cooperatives, and specialized institutions constituted for transacting agricultural insurance should already be familiar with the rural scene. They should be in a position to play a more active role in formulating and propagating schemes related to agriculture in particular, and rural life in general. Some ideas for insurance covers of relevance to the rural sector have been discussed in chapter VI.

B. Local representation

319. The second requirement is the establishment of a proper and cost-effective organizational infrastructure to service rural business. Insurance is intangible - a promise of security or protection. People in the rural areas must believe that someone will be approachable when the need arises. It has been found that insurance organizations in developing countries often launch sophisticated schemes without paying due attention to the infrastructure facilities required for servicing. The result is that the programmes falter and there is disappointment.

320. A network of representations in the rural areas needs to be created. In many developing countries this aspect has not been given due importance, and efforts are made to control the business from the central or regional office. It is true that administrative expenses in agricultural insurance tend to be high, and strict control has to be maintained. From this point of view, it

is possible that a fully-fledged branch with substantial financial authority may not be justified owing to the limited volume of business. There may also be a shortage of available manpower. However, skeleton branches or representation consisting of one or two persons could be opened and will grow in the course of time. A physical presence near the scene of action will create confidence in the minds of clients and help in rendering personalized service. It will also help to motivate and guide the agents and other field representatives.

321. The limitations in expanding local representation in remote areas have to be recognized. Apart from financial constraints, a lack of infrastructural support in the rural areas can be a crucial impediment. It is difficult to take insurance to a totally cut-off and inaccessible place. Basic facilities of communication such as a nearby post office or road connection, and hopefully a telephone, should exist. Furthermore, insurance is a financial service and it can be extended only to the extent the recipients are able to absorb it. This presupposes a minimum level of monetization of the activities proposed for insurance.

C. Marketing personnel

322. A cadre of marketing personnel is the third requirement for spreading insurance in rural areas. Crop, livestock and other lines of insurance linked to credit may not require marketing in the strict sense of the term, since insurance is one of the conditions of the loan. Nevertheless, considerable servicing is needed. Intensive sales effort is required for all voluntary agricultural and rural insurances. The potential clients live in a widespread area, and may not have exposure to insurance. Considerable explaining has to be done. The amounts are small and the premium insufficient to attract the normal marketing cadre of the insurance company, since their career is linked to the volume of premium generated. A marketing and servicing network needs to be organized, consisting of part-time and full-time commission agents, those who are paid a salary or stipend, and a combination of the two. They should have roots in the neighbourhood. They could be recruited from among successful farmers with a flair for leadership, social workers, and elected members of local bodies. To the extent that their terms of employment would permit the assumption of additional responsibilities, teachers, post office personnel, and extension and bank officials could be considered. The services of agents and representatives of similar organizations, like life insurance companies, savings schemes, and financial institutions, etc., could be utilized with basic briefing and some training. Proper training, motivation and support to the agency and the field personnel are of fundamental importance for the spread of insurance in rural areas. If the intermediaries are insufficiently informed, they will not carry conviction. Training programmes for agents have been instituted in many countries. In fact, out of the 44 countries providing information in response to the UNCTAD secretariat questionnaire, 35 countries reported that training is provided to agents. Of these, 30 countries reported training related to product knowledge, and 21 on how to sell insurance in rural areas. However, the contents of the training programmes are not known, and it is not certain whether they are effective.

323. It has to be admitted that insurance has a poor public image. 71/ One of the important causes is the wide gap between the expectations of policy holders and what is actually offered. It is true that insurance is a commercial contract and, with the exception of rare ex-gratia payments, claims can be honoured only if they fall within the four corners of the policy. However, what is contained in the policy, and what are the responsibilities and duties of the insured for fulfilment of the conditions of insurance, are often not sufficiently explained. Complaints are common about wrong impressions that are given, sometimes even about being misled. The result is disappointment, frustration, and often anger, when a benefit under the policy is claimed but turned down. While the insurance industry could organize campaigns for explaining the basis of insurance to the general public, it is the field personnel and their contact with the public and the clientele that determine the image of the industry in the long run.

324. Insurance companies have to invest in the creation of an effective infrastructure at the local level and to upgrade the skills of their field representatives. However, it is not always necessary to have highly-paid and full-time employees for field representation. In India "Rural Representatives" are appointed who are essentially part-time agents. They derive income primarily from the commission earned on business procured in rural areas, but are paid a nominal stipend during the first few years to sustain their interest until agency commissions build up. Unemployed young men and women are also employed as "Marketing Agents" at modest emoluments to canvass non-traditional lines of business exclusively, with a promise of absorption into the mainstream if they do well during the first few years. In Germany contact persons (a breeder, a farmer or a local trader) have been appointed on a fee basis at village level for transmitting inquiries about livestock insurance to the regional agent (who has been specially trained). 72/

D. Publicity strategy

325. The fourth vital need is for a concerted publicity campaign that would support the efforts to generate awareness of insurance. Various facets will require attention in the planning of an effective communication programme for a rural audience. To start with, the problems, the attitudes and the psychology of each of the target groups have to be analysed and understood. A segmented matrix approach will be helpful. It is very difficult to explain the concept of insurance to the illiterate and the very poor. Their preoccupation is with survival, and hence security for the future is of little concern. The benefits of insurance can be provided to them, at best, in the form of a small levy in lieu of premium, and a limited coverage which may take the shape of a social security benefit. A restricted personal accident cover is the most appropriate example. Those in the group must be made to realize the benefits; when indemnity becomes payable a public meeting could be organized and the amount disbursed in a manner that is visually apparent. This approach uses the well-known principle of the "demonstration effect" and triggers word-of-mouth publicity, which is by far one of the most potent mediums for communication in the rural areas.

326. The more literate and economically stabilized members of the community may have heard of insurance, possibly in the context of life insurance. To

take root, the message of insurance has to be conveyed repeatedly and in clear terms. The proposition should be relevant, direct and informative and, what is more important, it should be credible. Too much should not be promised, and insurance should be seen as an extension of a financial service to the rural areas. It is likely that in many quarters insurance is viewed with suspicion, and the aim should be to remove doubts by giving precise details that are easy to comprehend.

327. An important segment in the rural environment is the influential tier of the "opinion leaders". Establishing links with them is vital for the success of any rural campaign. Included in this group are bank managers, school teachers, extension workers, village heads, veterinarians, other health workers, heads of cooperative societies, local traders and various government functionaries. The insurance industry's involvement and concerns in the local area will have to be conveyed to this group. Whenever possible, structured meetings may be organized with the avowed objective of promoting discussion, eliciting objections and airing unfavourable case experiences.

328. In terms of the media strategy, the object would be to familiarize the defined audience with the essence and benefits of insurance, fight inertia, and counter indifference. Publicity vans have been effectively used in many countries. These vans travel to the rural areas and park at vantage points. Audio messages and skits on different types of insurance are delivered. Short films on various insurance covers are screened. To attract and collect a crowd, the proceedings sometimes begin by screening a popular film. A question-and-answer session is held for clarification of ideas, and in an attempt to make the meeting more interactive and to prepare for the selling stage.

329. Posters and hoardings are also useful. These could be placed near banks, popular tea shops, market places, fertilizer depots and other agricultural input dealers, veterinary facilities, medical extension centres, offices of cooperative societies, police stations and other similar contact venues. Metal posters and murals (paintings on walls of shops and dwelling houses which are given at nominal rent for advertisement) are often found to be cost effective because of durability.

330. Publicity through television has been attempted but often found to be costly, since the message has to be frequently repeated to be effective. Other problems that militate against the effectiveness of the small screen are the lack of sets in many rural households and an inadequate number of community viewing sets, the relatively short duration of commercials, and the absence of prime time audience aggregation. Short films and slides in cinema halls are common. Radio is the most widely used media. Sometimes free time is allowed for insurance-related subjects as a part of public service if company identification is avoided and the message is generic. These opportunities must be seized. Television and radio companies often organize programmes of general interest on topics such as risk management, safety and adequate compensation for accidents. Using their experience, the insurance companies could cooperate and bring in the message of insurance in an indirect manner. If time has to be bought, it should be carefully chosen. In some countries the hour following the religious service or a similar occasion has been found to be effective. Jingles, spots, and small

discussion-based announcements could be considered. Talks and interviews could be broadcast.

331. Stalls at weekly markets and during local festivals, cattle, agricultural or other fairs, and public gatherings have proved useful. Inexpensively printed material in easily understandable language explaining the salient features of various insurance schemes could be distributed on such occasions. Insurance representatives should be present so that explanations can be provided.

332. Out of the 44 countries providing information in response to the UNCTAD secretariat questionnaire, 35 reported the use of various media as follows: TV and radio, 26 countries or 59 per cent; advertisements in newspapers, 21 countries or 48 per cent; pamphlets and brochures, 21 countries or 48 per cent; sending agents to explain insurance, 20 countries or 45 per cent; public talks and discussions, 18 countries or 41 per cent; talks with professional bodies, 18 countries or 41 per cent; information given through banks and extension services, 15 countries or 34 per cent; exhibition vans, 4 countries or 9 per cent.

E. Insurance education

333. Encouraging education and training in insurance is the fifth dimension of efforts for enhancing insurance awareness. This can take several forms. Essays and debating competitions on insurance topics have been organized in schools and colleges in many countries. These are, however, usually held in the cities and similar efforts need to be made in the semi-urban and rural areas. Students in remote areas are often more receptive to new ideas and their response is likely to be genuine. Insurance has been included as a subject in many universities and schools. The insurance sector can support such moves by lending its personnel to give lectures.

334. One of the limitations of formal insurance education is that it is not an academic but a vocational subject. Both the students and the educational authorities, therefore, consider the utility of insurance subjects in terms of employment opportunities. These are admittedly limited. One possibility would be to broaden the subject to encompass risk management. This fits in more readily with such lines as engineering, business administration, commerce, etc. An effort made in India is worth noting. The various branches and other offices of insurance companies (many of which are in semi-urban and rural areas) adopted one school each and organized a series of six-period audio-visual lectures (with specially prepared written material and video tapes) for students in the age group of 12 to 13 years on the subject of safety at home, on the roads, and in cases of natural calamities, etc. About 300,000 students were covered. 73/ School authorities cooperated enthusiastically since this was seen as a useful input for the young students. The message of insurance was thus conveyed as part of a safety and loss prevention drive.

F. Training and research

335. As has been noted, the spread of agricultural insurance in developing countries is restricted, inter alia, because of lack of knowledge on the subject. Insurance companies often take up agricultural insurance on an experimental basis and as a side line. It is assumed that since only a small volume of business is underwritten, things will not get out of control. Such assumptions often prove to be wrong. While a step-by-step approach by making a small beginning and extending commitments gradually is sound, it is necessary to base decisions from the very beginning on an intimate knowledge of the technical details of the operational process. Insurance personnel can provide the managerial and insurance-related inputs but it is essential that others professionally trained in the production process, such as agronomists and veterinarians, are closely associated, not only in the field but also at the policy formulation level. AGROASEMEX in Mexico employs 308 agricultural engineers and 129 veterinarians. In India 356 veterinarians are employed. These and other specialists employed have to be given adequate infrastructural and administrative support. Having joined the insurance organization they would have moved away from the mainstream of their specialization, and it would be necessary to provide opportunities for updating their knowledge. Training courses may have to be organized. Insurance training centres have now been established in many parts of the developing world. They may consider adding agricultural insurance to their curriculum.

336. ALASA has adopted as one of its programmes the exchange of technical and operating experiences in agricultural insurance in Latin American countries. It coordinates technical seminars on specific topics, such as actuarial, underwriting and loss assessment methodologies. Specialists from several fields are invited. 74/ Munich Reinsurance arranged training courses on agricultural insurance in 1990 and 1991 in which practitioners from a large number of insurance markets of developing countries, particularly those who intend to start or have recently launched this line, were invited to discuss details of various types of insurance and to share their experiences. 75/ FAO has trained staff of the Agricultural Products Insurance Fund in the Islamic Republic of Iran in the assessment of cotton crop losses. 76/

337. It is also necessary to build a cadre of professional insurance managers. Insurance is a technical but not a difficult profession, and intelligent men and women can be groomed for it; at the same time, it is incorrect to assume that any generalist is as good as a trained insurance person.

338. Agricultural insurance is a new area compared to other lines of business, and information and knowledge of its various aspects have to be built up. To start with, institutional arrangements should be made for sharing models of product design. Cross-fertilization of ideas would take place, and this will go a long way towards removing the fear of the unknown that today surrounds the business. Creation of a data bank may be considered where information about models developed by various markets, difficulties encountered and experiences gained, and basic statistics are compiled. Systems such as EDP software developed by credit institutions for agricultural and rural credit could be studied, since many issues of credit

and insurance are likely to be similar. Basic research on several aspects of agricultural insurance is also needed. For example, analysis of experience at the operational level on issues such as the extent to which insurance has really helped in the flow of credit, or the role it can play in risk management and adoption of better technology would be worthwhile. Research on measures that can be adopted to reduce operational costs may be considered. The interface between agricultural insurance, environmental protection and sustainable development needs exploration. Agricultural and development economists and other professionals have to be associated with such an exercise, possibly under the aegis of insurance training institutes. Research should also be promoted at the universities whose faculties may include persons with an insurance background. Links may be established with national and/or international research organizations, particularly those that are doing work in areas related to agricultural activities. More purposeful cooperation and liaison with universities and research institutes, etc. is also necessary. In many instances research institutes are engaged in subjects that are not relevant to business. Moreover, the business world does not give the necessary feedback about its problems and the areas in which it would like help. 77/ Industrial enterprises in the developed countries allocate a portion of their revenue to basic research, and although limitations in developing countries are too obvious to be discussed here, there has to be a commitment to research in the field of agricultural insurance.

G. Potentiality study

339. It is good strategy to identify high potential areas and concentrate marketing efforts there. The ripple effect will enable insurance to be gradually extended to other areas. Such a strategy will be cost effective. Techno-economic indicators such as the amount of bank credit given, extent of electrification and communication facilities available, cattle population, veterinary, dairy and poultry production, number of tractors, irrigation facilities, consumption of fertilizers and pesticides, and value of output of major crops can be synthesized to build potentiality indices for major rural insurance covers.

H. Role of association

340. Some of the measures could be taken up by insurance companies as a part of business development strategy, or as an "image building" exercise. However, a combined effort may be necessary in some countries in view of the limited resources available in the companies. An association of insurance companies can play a useful role. Two qualifications, however, need to be made. First, the effort should be supported at the highest managerial level and should be sufficiently funded. Secondly, the talents and ideas available in the companies should be pooled, rather than leaving the determination of the research and operational priorities entirely to the ingenuity of the staff of the Association.

341. A well-integrated campaign for creating awareness of insurance in rural areas is not an easy task. Often it is time-consuming, and costly. It should, however, be viewed as an "introduction" cost. 78/

Chapter VIII

ORGANIZATIONAL STRUCTURE

Introduction

342. A proper vehicle in the shape of a suitable organizational structure is essential for the effective development of agricultural insurance. Particular attention is drawn to this aspect, since often much is planned but the efforts are thwarted because insufficient regard is given to building a supportive institutional framework.

343. In this chapter various options are discussed. Needless to say, the choice will depend not only upon the socio-political environment in the country but also the size and nature of the agricultural and the insurance sectors. The search for a suitable organization must begin with a study of the existing insurance market - its composition, strengths and weaknesses. A cost-benefit analysis should be undertaken as a part of the exercise to determine the option for the least costly but effective delivery system of insurance services to the agricultural sector. Often a variation or combination of the forms will be found to be more suitable and practical.

A. Institutions sponsored by interested groups

344. In some countries efforts in the field of agricultural insurance have been initiated by trade associations and interested groups. In Jamaica the banana trade (through the Banana Board) manages the Banana Industry Insurance Fund, the Coffee Industry Board operates an insurance scheme on behalf of the Coffee Industry Development Company, the cooperatives and individual growers, while the Coconut Industry Board runs an insurance scheme for coconut growers. In Zimbabwe the Tobacco Hail Insurance Ltd. (Pvt.) was established by tobacco growers.

B. National insurance organizations

345. In many countries the national insurance organization has assumed the responsibility of devising and propagating agricultural insurance schemes. Examples are the Sadharan Bima Corporation in Bangladesh, Companhia de Seguros do Estado de São Paulo in Brazil, the People's Insurance Company of China in the Republic of China, La Previsora Compañia de Seguros in Colombia, Instituto Nacional de Seguros in Costa Rica, Empresa del Seguro Estatal Nacional in Cuba, General Insurance Corporation in India, Mongol Daatgal National Insurance and Reinsurance Company in Mongolia, and Zambia State Insurance Corporation Ltd. in Zambia. In some cases, when a strong national insurance organization does not exist or has not found it practical to take up agricultural insurance, the institution associated with agricultural credit has taken the initiative. Thus, the Agricultural Bank of Iran in the Islamic Republic of Iran, the Credit Guarantee Corporation Pvt. Ltd. (for livestock) in Nepal and the State Insurance Bank in Uruguay are providing agricultural insurance. Since these organizations have the support of the

State, liaising with other public agencies is easy. It is a logical step for initiating action and laying a foundation for agricultural insurance. On the other hand, these organizations have to look after their normal business, which is onerous in itself. The possibility of insufficient attention to the propagation of agricultural insurance and the tendency to promote it only as much as is required by the authorities has to be guarded against.

C. Specialized institutions

346. Several leading insurance companies in the world were agricultural in origin. The Assurances Mutuelles Agricoles in France, the Raiffeisen und Volksbanken Versicherung in Germany, Zenkyoren and Kyoei in Japan, Mapfre in Spain and State Farm and Nationwide in the United States of America are examples of the phenomenon of agricultural influence in modern insurance institutions. 79/

347. Specialized institutions for agricultural insurance have been established in recent times in many developing countries and entrusted with the task of formulating and implementing suitable schemes. Empresa del Seguro Estatal Nacional in Cuba, Agricultural Insurance Organisation in Cyprus, Aseguradora Dominicana Agropecuaria (ADACA) in the Dominican Republic, National Agriculture and Livestock Insurance Company in Ecuador, Insurance Fund for Natural Risks in Agriculture Ltd. in Israel, Sugar Insurance Fund in Mauritius, AGROASEMEX in Mexico, Nigerian Agricultural Insurance Company in Nigeria, Philippine Crop Insurance Corporation in the Philippines, Panamanian Agricultural Insurance Institute in Panama, Corporación de Seguros Agricolas de Puerto Rico in Puerto Rico, Agricultural Insurance Board in Sri Lanka, Aseguradora Nacional Agricola (AGROSEGUROS) in Venezuela and Windward Islands Crop Insurance Ltd. (WINCROP) in the Windward Islands are some examples. In many ways this is a good arrangement since the organization is able to give exclusive and full-time attention to agricultural insurance and has to justify its establishment by showing results. However, these institutions cannot be all-embracing and their constitution should not be taken by the insurance industry of the country as a release from all responsibility in this field. As has been noted, considerable scope for new initiatives remains for insurance companies in developing schemes of agricultural insurance, particularly for the commercially-oriented sectors, either in conjunction with the specialized institutions or independently.

348. In fact, in certain instances this has been done. In Brazil two other insurers are involved in providing agricultural insurance; in Mexico seven insurance companies besides AGROASEMEX offer crop insurance; in Panama an agricultural insurance company operates side by side with the Panamanian Agricultural Institute. Similarly in Puerto Rico the Coffee Insurance Corporation provides insurance together with Corporación de Seguros Agricolas de Puerto Rico.

349. It needs to be mentioned here that a handicap from which both the national insurance organizations and specialized institutions for agricultural insurance often suffer is undue bureaucratic and political interference. Benign intervention of the Government in the development of agricultural insurance is necessary, but it should not lead to a situation

where insurance business cannot be conducted on a professional basis, and is avowedly used as an instrument of State policy.

D. Private sector companies

350. The private sector insurance companies may not find it practical to provide crop insurance of a comprehensive nature targeted at the traditional and small sector farmers. Insurance for this sector has social welfare aspects, and private companies which have to strive for profitability may not be able to venture into this line or make a success of it. Their comparative advantages lie in other spheres.

351. As has been noted, opportunities exist for extending insurance to commercially-oriented farming and specialized production systems. In almost all developing countries these activities are growing, both in numbers and scope. Horticulture, production of vegetables and flowers for export, plantations, greenhouses, poultry, aquaculture and sericulture farms offer a potential field for expansion of business. Leaving social considerations aside, this will also strengthen the national economy, which in turn will mean more business opportunities in even the traditional spheres.

352. Livestock insurance should also receive the attention of the private sector insurance companies. They should be able to provide insurance to herds of livestock reared on a commercial basis by dairies and cooperatives and for fattening farms. It is also within their reach to provide insurance for livestock kept by small and traditional farmers, as well as by the semi-commercial and emerging sector. Individual risks are small and manageable. The main problem is that of administration and ingenuity should enable them to find the answers. As has already been noted, developing livestock insurance will provide an opportunity to gain a foothold in rural areas, and once this has been achieved it will be easy to tap other types of insurance opportunities existing there. A substantial volume of business can be generated.

E. Pools

353. A coordinated approach by the insurance industry would be advisable, particularly in the initial stages and in small markets. There is no need for each of the companies in a market to go through the process of product development. Companies with a small capital base or with limited infrastructure may not be able to take up agricultural insurance in a serious manner, but on the other hand may create problems by entering an area developed by someone else at great cost and by undercutting rates. A pool approach is a possible solution. Various companies interested in underwriting agricultural insurance may form or join a pool, and will thenceforth abide by the rates and terms and conditions commonly drafted but will sell insurance through their own outlets. The advantages are obvious: underwriting capacity is enhanced, the danger of working at cross purposes is avoided and the marketing resources of all are utilized. Such pools for livestock insurance have been formed in Kenya (10 private sector companies) and the Philippines (25 private sector companies and 2 government agencies).

354. The system of a pool operating in Spain is worth noting. Any private insurance company, domestic or foreign, can join the national pool on a co-insurance basis. The members have to comply with the terms and conditions, and the cover, approved by ENASA, a parastatal organization, but compete in marketing. AGROSEGURO (Spanish Group of Combined Agricultural Insurance Entities), set up as a society, offers statistical and management services to the companies in the pool. Reinsurance support is also provided by the State.

355. In the functioning of pools, care has to be taken to ensure that all members do take an interest, and that participation in a pool does not become a method of evading a responsibility, or as an opportunity for "sleeping" members to share in the business developed by a few. A pool should not provide an easy income for inefficient members. Proper records should be maintained of the contributions made by the various members, both quantitative and qualitative, so that it will be possible to identify the source should problems arise. In other words, a pool should not lead to anonymity which may permit a member to dump bad business. A further point to be noted is that a pool is in a way a cartel, and therefore the interests of the consumers have to be protected. In particular, if the claims ratio is favourable, say, below 50 per cent over a number of years, the premium rates should be adjusted or the scope of the cover widened.

F. Market-sponsored company

356. For the commercially-oriented sector, insurance companies could be in a position to develop products and devise marketing strategies independently. However, in smaller markets, or markets characterized by a large number of small companies, a commonly evolved strategy may be necessary. One way would be for the leading insurance companies, if not all, to form a consortium or float a specialized company for agricultural insurance. Banks and other institutions connected with agriculture could be invited to participate. Such a company will have many advantages. It will maintain flexibility and freedom of operation, and yet have the benefit of the pooled resources of various companies. It will be a specialized organization and may carry more influence with government departments and agencies connected with rural credit and extension services, and at the same time will not be fettered by the disadvantages associated with a public sector organization. Care has to be taken to ensure active participation and involvement of the various constituents. A reasonably adequate amount of capital has to be provided. Profit margins in agricultural insurance are not high, and if the company suffers from the beginning from the handicap of very limited capital, it may not have the necessary cushion and may be unable to discharge its functions properly and make much headway. Furthermore, since it would take time to build up its own organizational infrastructure, the sponsoring institutions should be willing to help in the initial stages by lending their personnel, office space and other facilities on a subsidized if not free basis. This is not uncommon in other spheres. Reinsurance support may also have to be given by the national company and the sponsoring institutions. Since this will be a national effort, the Government should be willing to support such a move by giving appropriate fiscal concessions.

357. Two variations are possible in the constitution of a market-sponsored company. First, where the company is responsible for devising suitable covers, arranging pre-acceptance and claim assessment surveys, etc., but the marketing is done by both the company and the sponsoring units. The company would thus also function as a pool. Second, where the company is sponsored as a joint sector venture, with the participation of the Government. Participation of the State would provide many advantages. There would be better access to various agencies, research institutions, etc. Most importantly, with the backing of the State it would be possible to manage with less capital than would otherwise be required. However, it has to be clearly stipulated that the Government is to be only a passive member, and that the company will be managed as a commercial organization and not as an instrument of the State. It should not be difficult to persuade the Government that providing commercial insurance to productive commercially-oriented agricultural units is also in the interest of the country.

G. Mutuals and cooperatives

358. A mutual or a cooperative society constituted for the purpose of agricultural insurance can be very effective. 80/ There are many advantages. First, since its members are also its shareholders, it has no other interests to serve. Second, the members also become observers of the functioning of the institution, and more transparent management is possible. Third, the operative costs are likely to be lower. Fourth, it would be more sensitive to the needs of the clients, who are also its constituents, particularly in respect of settlement of claims. Fifth, it is likely to have better control over risks, particularly moral hazard owing to closer contact with members, and their mutual observance. Sixth, by tradition a mutual or cooperative is usually involved in educating and briefing its members, and in the sphere of insurance this would lead to better risk management. And, last, by virtue of links with cooperatives in other spheres, it would have the support of a wide market. In particular, since many cooperatives already function in the rural sector, they could give useful support for an extension of insurance into the agricultural field.

359. The weaknesses of mutuals and cooperatives can be summarized as follows. First, in many countries an adequate legal framework for their operation does not exist. Second, a small area of operation does not provide opportunity for an adequate spread of risks. Third, the effort is often not supported by an adequate base of capital or reserves. Based on the principle that capital should receive a fair return but no more than a fair return, one of the basic principles of the cooperative movement is that "the share capital should only receive a strictly limited rate of interest". 81/ Fourth, the experience and skills required for insurance operations are often not available. Lastly, constituents often do not take sufficient interest and the organization is monopolized by a few "leaders". Some of these characteristics are similar to the difficulties faced by small enterprises.

360. It has to be realized that a mutual or a cooperative society cannot take an altruistic approach to matters of business - and insurance is a business if it is to survive and flourish as a viable entity. On business considerations, there are obvious limitations in what mutuals and

cooperatives can do in the area of rural and agricultural insurance, similar to other forms of organization. Too much should not be expected from them. None the less, a system based on the principles of mutuals and cooperatives has a real relevance for servicing the insurance needs of small farmers belonging to the semi-commercial and emerging sector. 82/

361. That the cooperative or mutual societies have a definite role in providing insurance services in the rural areas is demonstrated by the fact that in a number of developed countries agricultural insurance has been developed, and is in fact dominated, by cooperatives and mutuals. The agricultural insurance systems in France and Japan are organized on the basis of a large number of mutuals and cooperatives at the local level, supervised and supported through reinsurance by apex bodies at the prefectural and national levels. In France, Spain, Sweden and the United Kingdom agricultural insurance is mainly handled by cooperatives and mutuals. A large number of mutuals also operate in agricultural insurance in the United States of America. Mutuals and cooperatives are functioning in many French-speaking African countries, for example, in Algeria, Cameroon, Côte d'Ivoire, Gabon, Morocco, Senegal and Tunisia. They transact not only agricultural but various other lines of business, emanating primarily from rural areas. The People's Insurance Company of China (PICC) in the Republic of China has collaborated with the Hebai Federation of Supply and Marketing Cooperatives (HFSMC) to set up three pilot schemes in different counties. Three different models have been adopted: in Ji County an insurance company, in Xinle County a joint venture enterprise and in Ba County an insurance agency. 83/

362. According to available information, 80 cooperative insurance companies are operating in 35 countries. A large number of them, however, are confined to providing insurance to their urban-based members. It is felt that, by taking advantage of their links with other cooperatives in the rural areas, they should gradually extend operations in the agricultural sector. New cooperative insurance companies dedicated to agricultural insurance may also be formed. However, a caveat needs to be entered about the functioning and management of mutual and cooperative insurance organizations. Accountability and transparency in operations must be ensured in accordance with the law of the land. In particular, the supervisory authorities should not presume that since policyholders and shareholders are one and the same they will look after their own interests and monitoring of activities can therefore be relaxed.

363. To encourage insurance related activities of cooperatives and mutuals, the International Co-operative and Mutual Insurance Federation has been formed with wide membership, particularly in developing countries. Its activities range from training to providing technical assistance. Two of its members undertake agricultural insurance as their primary activity, and for 14 others rural and agricultural insurance is a significant part of the total business. Because of their close relationship with the agricultural sector, it has often been possible to devise innovative schemes addressing specific requirements of the members of the cooperatives. For example, in view of the risks involved in the use of farm machinery, a cooperative insurer has developed a farm machinery policy that compensates policyholders for bodily injury in addition to the physical damage caused by operation of machinery.

H. Combination of different forms

364. Mexico has evolved an interesting combination of different forms of organizational structure. About 110 "Self-Insurance Funds" formed by agricultural producers operate at the local level. These Funds must follow the "General Rules for the Constitution and Functioning of the Associations for Crop and Livestock and Life Insurance for the Agricultural Producers". A national level parastatal organization, AGROASEMEX, plays an active role in promoting the constitution of the Funds, assisting in their proper management by framing guidelines for operations, arranging training for their members and staff, and providing reinsurance support. AGROASEMEX also directly transacts agricultural insurance in areas not covered by the Funds. In addition, some of the private sector companies offer agricultural insurance. Their coverage is increasing. The framework in the United States of America is worth noticing. Local farm mutuals have been formed in many states to cater to the needs of farmers. Apart from this, many Farm Bureaux and private insurance companies are also involved in agricultural insurance in general, and crop insurance in particular. 84/ They offer limited weather-related peril covers, specially for hail and related risks. The Federal Crop Insurance Corporation (FCIC) was established in 1938 and offers multi-peril insurance for several crops. It is responsible for crop insurance programmes in the country. However, it has been recognized (by legislation enacted in 1980) that the sales talents of private commissioned agents and insurance companies are essential, and these are now fully involved in the programme. In fact, around 90 per cent of multi-peril insurance is sold through them. A subsidy for expenses is given to the extent of 34 per cent of the premium. 85/ Through a reinsurance mechanism it is so arranged that the companies will be responsible for up to 15 per cent of underwriting loss or profit, the remainder being borne by FCIC or the Federal Government.

I. Role of government

365. Governments at the political level and supervisory authorities at the operational level have a distinct role to play in facilitating the development of agricultural insurance. Their concerns can be broadly summarized as follows: First, an economic and trading environment congenial to the agricultural sector has to be created. This would include supply of various inputs, transportation and marketing arrangements, creation or improvement of infrastructural facilities necessary for successful operations, and remunerative prices for the produce wherever the government has a say in their determination. This is not the case in a number of developing countries and, consequently, agricultural activities continue to remain in a depressed condition. It is true that this is a major policy and macro-economic issue which extends beyond the scope of agricultural insurance; at the same time, it needs to be emphasized that agricultural insurance can prosper only to the extent the activity or the property it seeks to insure is economically viable. Second, a legal and fiscal framework conducive to the functioning of the insurance system has to be provided. This would include suitable provision for incorporation of mutuals and cooperatives under the insurance statute, and liberalization in the insurance sector so that the number of players can be increased. While the private sector companies have many handicaps in the area of agricultural insurance,

they can certainly do much better if supported by the government. Better enforcement of rules and regulations relating to agricultural production is also necessary for agricultural insurance to be effective. Agricultural risks are particularly exposed to natural catastrophes. Since such events occur only once in a while, a part of the savings of a year has to be funded in a reserve to meet liability in the year when a catastrophe strikes. The tax laws, however, usually do not permit such funding to be tax deductible, and the savings of a year are treated as profit and taxed in the normal manner. In Colombia, Mexico, Norway, New Zealand and Sweden, limited tax facility is allowed for the creation of a fund to meet catastrophic losses. 86/ Third, support of financial institutions to agricultural insurance is vital. Further, the concerned authorities should make available the foreign exchange required for reinsurance. Fourth, the insurance sector may have to be strengthened by requiring enhancement of the capital base of insurance organizations so that larger risks can be assumed. The government can also provide much needed support to the insurance sector in developing skilled manpower by supporting specialized education and training, and in enhancing awareness of insurance. Fifth, infrastructural facilities for accurate and timely collection of meterological data as related to agricultural activities, for control of diseases related to livestock, poultry, fish, etc., and support services such as extension services may need to be strengthened. Sixth, the developmental aspect of insurance supervision and regulation may require taking initiatives to overcome inertia by generation of the necessary impulses and provision of motivation. It can be argued that when credit institutions can be influenced, or required, to lend for agricultural operations as a priority sector, the insurance industry can also be made to pay greater attention to agricultural and rural risks. And finally, properly evaluated financial support may have to be provided. The matter of a subsidy to agricultural insurance schemes has been discussed in paragraphs 137-139, and the role of the State in reinsurance has been considered in paragraphs 380-384.

Chapter IX

REINSURANCE

Introduction

366. Reinsurance is to an insurance company what insurance is to an individual. It is a mechanism for an insurance company to share with others the assumed risks, so that a better spread is achieved and wide fluctuations in the net results avoided. It also enables acceptance of risks beyond one's own financial base. In fact, it is a system of utilizing the financial base of others as well. Thus, the capacity to underwrite risks is substantially enhanced. Apart from financial considerations, reinsurance promotes a healthy discipline, in so far as a separate professional organization also has a look at the products being offered and their results.

A. Various reinsurance arrangements

367. If insurance covers relating to a few commercialized or specialized production units are involved, reinsurance on a facultative (or individually negotiated) basis could be bought. As the number grows, a line slip (standing arrangement for declaring individual risks) is provided. But when the number of risks becomes large, the administrative costs of declaring risks to reinsurers would be heavy, and a treaty (a permanent annual arrangement whereby individual risks need not be declared) is needed. The nature of the treaty will depend upon what the ceding company is able to bear for its own account (this is considered important as it reflects the confidence in the business underwritten), the loss profile in terms of size and numbers and other related characteristics of the portfolio. Both a proportional and a non-proportional basis of a reinsurance treaty could be considered. In a quota share treaty, which is a proportional arrangement, the reinsurer gets a set percentage share of both the premiums and claims on all risks assumed. This is suitable when the ceding company lacks the financial strength or the confidence, as the business is new, to retain much of the risks for its own account. Reinsurance on a quota share basis may also be useful in the early stages of development of agricultural insurance. But the cost of the reinsurance could be high particularly if the business is profitable. The reinsurer is also likely to insist on a greater say in the scope of insurance provided and the rates charged since he is exposed on all the risks underwritten. The surplus basis is another proportional arrangement, wherein the company determines the amount it wishes to retain on various risks, and reinsures (cedes) amounts in excess (surplus) of the retention, up to an agreed extent of each of the risks. Premium and claim are shared in proportion to the amount reinsured. A combination of quota share and surplus basis is also possible. One of the drawbacks of proportional reinsurance is that considerable administrative work is involved, since retention and amount ceded, as also the reinsurer's share of the premium and claim will have to be determined for each of the risks.

368. Reinsurance on a non-proportional basis is the alternative method. Here the liability of the reinsurer is not on each risk and based on the sum insured, but on the basis of losses. Reinsurance premium is a percentage of the annual premium. Two main systems are in vogue. In an "excess of loss" treaty, the company determines the amount it is willing to retain for its own account (priority, or underlying) out of a loss, and the reinsurer is liable for the remainder of the loss amount (the excess), up to a given point. Three aspects have to be kept in view. First, whether the cover is intended to be a "working" or a "catastrophe" cover. If the former is the intention, the priority is kept low so that "peaks" of all major losses are transferred to the reinsurer. Under a catastrophe cover the priority is fixed at a high point, so that the reinsurer comes into the picture only if a very heavy loss is incurred due to a catastrophe. It is obvious that under a working excess of loss treaty the reinsurer will wish to recover in a comparatively shorter time the claims it pays (as a working help to the company) from the annual premiums. Under a catastrophe cover it is realized that the company has little control over the frequency and size of the loss, and accordingly a longer pay-back period is allowed for premiums and claims to balance. Second, proper definition of what constitutes a claim is necessary. In some contracts it is provided that the aggregate of various small claims arising out of an event or occurrence, such as a catastrophe, will be regarded as constituting a claim for reinsurance purposes. In other contracts, each claim is treated separately, and has to reach the priority before recovery can be claimed from the reinsurer. And, third, great care has to be exercised in determining the Probable Maximum Loss (PML) of risks insured while fixing the priority. The concept of PML is based on the presumption that an insured property is unlikely to be totally destroyed by an event, and it is possible to retain more in terms of the sum insured if the maximum probable loss is likely to be less than total. A proper determination of PML thus has a bearing on the extent of reinsurance required, the net cost of which has to be paid in foreign exchange. With a given retention capacity of a company the amount retained will be comparatively low, and a higher extent of reinsurance will have to be sought if the PML is fixed high than if it is fixed at a low level. But fixing the PML low exposes the net account of the company.

369. The "stop loss" treaty in effect limits (stops) the loss ratio of the company to a pre-determined level. The reinsurer will provide compensation up to an agreed extent if the loss ratio exceeds a stipulated level over a period, usually a year. Such an arrangement has many advantages. First, because the reinsurer is not concerned with individual losses, big or small, the problems of defining an event and of allocating losses to various events are avoided. Second, the consequences of a wrong PML do not have to be faced. And, third, the possibility of several claims, or several priorities under an excess of loss treaty, aggregating to a high claims ratio, is avoided. The company is able to determine the maximum loss ratio it can afford to bear. With the various uncertainties of agricultural insurance, this arrangement is often the most suitable. At the same time, the cost of a stop loss cover is likely to be high (as compared to an excess of loss arrangement) since it is tantamount to guaranteeing the performance of the portfolio. A retained loss ratio of 100 to 150 per cent is usually required.

370. The type of reinsurance arrangement that is most suitable will depend upon the specificities of the situation. However, the following observations can be made. First, different sections of agricultural insurance will require separate treatment. One type of reinsurance arrangement will not suit all situations. A combination of proportional and non-proportional may also be considered. After ceding on quota or surplus basis, the net account of the company can be protected by an excess of loss or stop loss treaty. Second, for participation in a proportional treaty the reinsurer would need to be satisfied about the level of the original premium charged by the company since it is participating in premiums and claims on specific policies. In a non-proportional treaty the reinsurer can make up the deficiency in the original rate by charging a higher reinsurance rate. Third, it is possible to reinsure selected perils under a non-proportional treaty. This would reduce the reinsurance premium. Fourth, the administrative work is minimal under non-proportional as compared to proportional arrangements. But the retention and exposure of the ceding company is much higher since the reinsurer comes into the picture only when the priority is reached. The level of priority is a matter of negotiation. There is a trade-off between the level of priority and the rate of reinsurance premium. The lower the priority, the higher will be the rate. Fifth, non-proportional reinsurance may not be available for a new scheme whose results are not known. In a new scheme, the reinsurer would like to have a say in the design of the cover and then share the business on a proportional basis. Sixth, one of the important considerations for the reinsurer is the "balance" of the treaty (the balance between the reinsurance premium generated and maximum liability). A reinsurer expects that the reinsurance premium of a year should at least equal the likely maximum loss of that year. The implication from the point of view of the insurance company is that, if the portfolio is small, the treaty is unlikely to be balanced, and will be less attractive to the reinsurer. In that event he will offer stiffer terms.

371. A survey of 81 crop insurance programmes in 74 countries showed that their reinsurance contracts were on the following basis: stop loss 30 per cent, excess of loss 15 per cent, quota share 4 per cent, and other proportional basis 20 per cent. Information about the remaining 31 per cent was not available. 87/

B. Importance of reinsurance

372. Need of reinsurance is apparent when agricultural insurance is offered by private sector companies. Their capital base is limited, and a substantial part of it is already tied up to service the normal urban and industrial business. Their additional risk-assuming capacity therefore depends upon the extent to which reinsurance support can be mobilized. Reinsurance is also sought by parastatal bodies, either those whose financial base is small or those which are expected to manage agricultural insurance schemes on a strictly commercial basis, as it is a means of evening out operating results. Agricultural insurance is a comparatively new line of business and has not as yet stabilized. Consequently, the results tend to fluctuate greatly, and reinsurance is vital. In fact, it is felt that lack of adequate reinsurance support is one of the key factors hampering the growth of agricultural insurance in developing countries. 88/

C. Reinsurance within the country

373. As a measure of saving foreign exchange (which is a major consideration in a large number of developing countries) and in order to build up the national market, possibilities of reinsurance with other insurance enterprises within the country should be fully explored, and in fact exhausted, before seeking reinsurance internationally. Even if the national market does not have sufficient capacity and reinsurance in the international market is imperative, an endeavour should be made to retain at least a small portion in the local market. A spin-off benefit could be that each of the local companies accepting a fraction of the risk would become involved in agricultural insurance. If a national reinsurance company exists, it has a special duty. It should support underwriting of agricultural risks. It should also build up in-house expertise. Often a company wishing to enter agricultural insurance would prefer to consult and seek technical help from the reinsurance company (since it is regarded as neutral), rather than the company already in the field. The national reinsurance company can also bring others together and be the springboard for new initiatives. The Kenya Reinsurance Corporation in Kenya was instrumental in the formation of the national livestock pool, and manages it.

D. Role of regional reinsurers

374. The regional reinsurance organizations such as Asian Reinsurance Corporation and Africa Reinsurance Corporation can play a role in supporting agricultural insurance programmes. It is true that with limited experience in the line and their small capital base, they may not be in a position to provide sufficient reinsurance for a programme to take off, but a limited and measured extent of support will go a long way in confidence building. Some of them, in fact, have started looking into the possibilities. This is a step in the right direction, and the initiatives taken need to be commended.

E. International reinsurance

375. In many instances, international reinsurance support would be vital. It is true that reinsurance requires foreign exchange and developing countries are constrained here. However, reinsurance need not be viewed in the narrow context of a one-way drain of foreign exchange for remittance of premiums, since, when claims are met by reinsurance, there is an inward remittance. The true burden of reinsurance is the net amount of premium paid less commission and claims received over a period of time. This ultimate net drain will depend upon the bargaining strength of the two sides. Suffice it to say here that international reinsurers are commercial entities and will provide the service only if there is a prospect of making a profit, albeit limited, in the long run. Thus, the fact remains that reinsurance entails an outlay of some foreign exchange.

376. Reinsurance capacity for agricultural risks is limited. Attracted by the apparently high premium rates, many underwriters accepted agricultural insurance business from all over the world in the 1960s and 1970s. These were also the times of falling rates and general over-capacity for more traditional lines of business. The experience was unfavourable and the market shrank. 89/ Now there is a cautious revival. At present the main

players for risks emanating from developing countries are Lloyd's in the United Kingdom, the reinsurance companies in Germany, France, Switzerland and, to a limited extent, Spain and Sweden. Reinsurers, however, now insist that the matter is approached from a technical point of view, all the more so because, with the reduction of retrocession facilities in the international market (a reinsurer passing on reinsurance business to others), a greater share of acceptances has to be retained, and consequently extreme care has to be exercised. None the less, there is a constant search for new lines of activity, and support is available if viability can be established. Some of the reinsurers have set up well-equipped departments for exploring the possibilities of business. Reinsurers are also in a position to help to find solutions to the needs of agricultural insurance markets of developing countries by giving advice and counsel, suggesting the revision of existing programmes, devising new covers, and, most importantly, by training personnel of insurance companies. 90/ Others require scrutiny of the proposal by an established adviser or consultant. Generally speaking, the reinsurers are reluctant if the perils covered are wide and the scheme is targeted at the traditional farm sector as a welfare or farm support measure. This is not their business. On the other hand, if they are satisfied that a judicious level of premium prevails, whether paid by the farmer or subsidized by the State, that a reasonable system of loss assessment exists, and that the programme is based on technical evaluation of risks, reinsurance support is available. In fact, agricultural insurance programmes of the following countries, among others, have reinsurance in the international markets: Argentina, Chile, the Dominican Republic, Ecuador, Indonesia, Jamaica, Malawi, Malaysia, Mauritius, Mexico, Mongolia, Pakistan, Panama, the Philippines, Tunisia, Turkey, Uruguay, Venezuela, the Windward Islands, Zambia and Zimbabwe. 91/

F. Brokers and advisers

377. The services of reinsurance brokers, some of whom have considerable experience in developing countries and in agricultural insurance could be usefully drawn upon for devising agricultural schemes and negotiating reinsurance. A few leading reinsurers do not entertain business from brokers as a matter of policy. This saves them the cost of the commission that will otherwise be paid to the broker. Often the reinsurer insists that a substantial share of the business be placed with it. From the ceding company's point of view, this may mean that it has to depend upon one reinsurer and opportunity for access to the whole of the international market is lost. But if the reinsurer is willing to support the programme sufficiently, and also provide technical advice, this could be a satisfactory basis. There is often no certainty that a wider market would be more receptive.

378. Agricultural risk advisers and consultants can also help in devising new schemes. Some reinsurers, particularly Lloyd's underwriters, often require a proposal to be scrutinized by them. Their services are also utilized in evaluation of a risk and for loss assessment. While various parties involved in the reinsurance process - the ceding company, the intermediary, and the risk carrier - have their commercial interests, which often differ in emphasis, in the long run the process has to be seen as team work and joint responsibility.

379. Difficulties are often encountered by insurers in developing countries in negotiating reinsurance. Since this is a newly developing and evolving line of business, reinsurers expect complete documentation of technical aspects of the risk and its management by the ceding company. Fully documenting the technical and financial aspects of the proposal will facilitate the process.

G. Reinsurance support by the State

380. Commercial reinsurance has its limitations. International reinsurers evaluate proposals on the basis of demonstratable commercial viability - a criterion which insurance companies of developing countries often find difficult to fulfil. The capacity available is not always adequate. In any case, the capacity that it is possible to generate even on a proper presentation of the case may not be sufficient to meet the requirements of a large number of claims arising from a natural catastrophe. Reduced international reinsurance capacity is today available even for normal risks, and the capacity that can be committed for agricultural risks is, consequently, very limited. Fearful of the impact of a natural catastrophe, insurance companies tend to limit their commitments. It is thus obvious that if agricultural insurance is to be meaningfully spread to cover a wide section of agricultural activities and not to remain confined to a few select farmers, the State has to take cognizance of the need of reinsurance support.

381. The State can contribute to the creation of additional reinsurance capacity in two ways. First, it can offer reinsurance to companies or organizations writing agricultural risks. In Israel the Ministry of Finance provides substantial reinsurance to the Insurance Fund for Natural Risks in Agriculture Ltd. The Government of Cyprus also gives reinsurance support to the Agricultural Insurance Organisation. The Government in Japan provides reinsurance support to the local mutual associations and the prefectural federations. In Spain, also, the Government gives reinsurance support to private sector insurance companies that join a national pool of agricultural insurance through a parastatal body, Consorcio de Compensacion de Seguros. The structure of crop insurance in the United States of America is based on the reinsurance support provided by the Federal Government to the Federal Crop Insurance Corporation and the private sector insurance companies operating in the field.

382. As an alternative to directly providing reinsurance, the State can be instrumental in establishing or strengthening a reinsurance company in the country. In Brazil reinsurance support is extended by the Government through the I.R.B. Brazilian Reinsurance Institute, and in Colombia through the State Insurance Company (La Previsora Compania de Seguros). This arrangement has the advantage that the reinsurance company would be able to deal with the matter more professionally than the Government. As a specialized institution it can also more effectively negotiate with the international market on behalf of local insurance companies. The success of such an approach, however, will depend mainly upon the following three factors: Firstly, the financial strength of the institution. Unless the reinsurer is adequately capitalized and financially supported by the State, it will not be able to serve the intended purpose, and may end up by becoming a weak link in the chain. Secondly, the extent of operational freedom. If not allowed to

operate on a commercial basis and burdened with bureaucratic formalities, it may flounder. And, thirdly, the overall amount of reinsurance business it is able to generate. A reinsurance company will find it very difficult to survive if its portfolio is limited to or consists primarily of agricultural risks. It should therefore develop a proper mix of business, with one class supporting the other.

383. The extent to which governments in developing countries would be in a position to provide reinsurance support will depend upon their budgetary position, which in most countries is far from satisfactory, and on how beneficial the schemes devised are considered to be. A responsibility therefore devolves on those connected with agricultural insurance. On the one hand, they should not be over dependent upon public financial support and, secondly, they must come up with products that are conceived as beneficial. Since, so to speak, the sand keeps shifting as public perception changes, they have to be agile, innovative and imaginative.

384. After an analysis of the retention capacity of insurance companies in the country and the extent of reinsurance available from national, regional and international reinsurers, the reinsurance facility provided by the State could be limited, if so deemed advisable, to specific perils which have a catastrophic exposure, leaving the first layer of more manageable risks to the commercial sector.

Chapter X

SELECTED REPLIES TO THE QUESTIONNAIRE

A. Background information

385. The questionnaire was sent to 131 countries. Replies were received from 53 countries and territories, but 9 reported that agricultural insurance is not offered or is not available. These are: Bolivia, Congo, Ghana, Jordan, Niger, Netherlands Antilles, Oman, Singapore, and Turks and Caicos Islands. The information provided by 44 countries is presented in a tabular form.

The table presented consists of four parts as follows:

B. General Information on Agricultural Insurance,
C. Crop Insurance,
D. Livestock Insurance, and
E. Aquaculture Insurance.

386. The first three columns of part B (General Information - para. 388) are further elaborated as part C (Crop Insurance - para. 389), part D (Livestock Insurance - para. 390), and part E (Aquaculture Insurance - para. 391). Hence, the number of positive replies in the first three columns of part B determine the number of countries that have given substantial replies and are listed in the respective parts C, D and E (i.e. 25, 28 and 6 countries). The pages of the charts successive to the first page utilize abbreviations of names of countries for purely functional reasons.

387. The following symbols and abbreviations have been used in the table where appropriate:

- → a dash indicates that no answer was given to the specific question;

* → an asterisk indicates a positive reply to a question which has several options: therefore the asterisk is a non-exclusive "yes";

n/a → stands for "not available" and implies that the category in question (i.e. reinsurance) is not available on the market;

p → indicates that premiums are subsidized;

acl → indicates that agency/company losses, arising from the insurance in question, are compensated by a subsidy;

pacl → indicates that both premiums and agency/company losses are subsidized;

(+) replies → the number of positive replies to the specific question;

% (+) replies → the percentage of positive replies to the specific question.

B. General information on agricultural insurance

388.

	Specific insurance covers offered					6.	7.
	1. Crop insurance	2. Livestock insurance	3. Aquaculture insurance	4. Covers are offered in specific insurance packages	5. by Cooperatives	Banks and/or financial institutions require cover when giving credit	Risk management programmes exist
1.Algeria	yes	yes	no	yes	no	yes	no
2.Argentina	yes	yes	no	yes	yes	yes	no
3.Barbados	yes	yes	no	no	no	yes	no
4.British Virgin Islands	no	no	no	no	no	yes	no
5.Burkina Faso	no	no	no	no	no	yes	no
6.Cameroon	no	no	no	-	no	yes	no
7.Central African Republic	no	no	no	no	no	yes	no
8.Chad	no	no	no	no	no	no	no
9.China	yes	yes	yes	no	yes	no	yes
10.Colombia	no	no	no	-	no	yes	no
11.Costa Rica	yes	yes	no	yes	-	yes	-
12.Cuba	yes	yes	no	no	no	yes	no
13.Cyprus	yes	no	no	-	-	-	-
14.Ecuador	yes	yes	no	no	no	yes	no
15.Ethiopia	no	yes	no	no	no	yes	no
16.Fiji	no	no	no	no	no	no	no
17.Honduras	no	no	no	yes	yes	yes	-
18.India	no	yes	yes	-	no	yes	no
19.Indonesia	yes	no	no	no	no	yes	yes
20.Iran, Islamic Republic of	yes	no	no	no	no	yes	no
21.Israel	yes	yes	yes	yes	yes	yes	no
22.Kenya	no	yes	no	no	yes	yes	no
23.Korea, Republic of	no	yes	no	no	yes	no	no
24.Libyan Arab Jamahiriya	no	no	no	yes	yes	no	-
25.Madagascar	yes	yes	no	yes	no	yes	yes
26.Malawi	yes	yes	no	yes	no	yes	no
27.Malaysia	yes	yes	no	no	no	yes	no
28.Malta	no	no	no	no	no	yes	no
29.Mauritius	yes	yes	no	no	no	yes	no
30.Mexico	yes	yes	yes	yes	yes	yes	no
31.Morocco	yes	yes	no	no	no	yes	no
32.Namibia	no	yes	no	yes	yes	yes	no
33.Nigeria	yes	yes	no	no	no	no	no
34.Papua New Guinea	no	no	no	no	no	yes	no
35.Philippines	yes	yes	no	no	no	yes	yes
36.Romania	yes	yes	no	no	no	yes	no
37.Solomon Islands	no	no	no	no	no	yes	no
38.Sri Lanka	yes	yes	no	yes	no	yes	yes
39.Sudan	yes	yes	no	no	no	yes	no
40.Tanzania, United Republic of	no	no	no	no	no	yes	no
41.Thailand	yes	yes	yes	no	no	no	no
42.Tunisia	yes	yes	yes	yes	no	yes	no
43.Turkey	no	yes	no	no	no	yes	no
44.Zimbabwe	yes	yes	no	yes	no	yes	no
number of positive replies	25	28	6	13	9	36	5
per cent of positive replies	57	64	14	30	20	82	11

B. General information (continued)

	Other agricultural insurance covers offered				Standard insurance covers offered rurally on a substantial basis			
	8. Agricultural equipment	9. Storage	10. Processing	11. Agricultural liability	12. Life insurance	13. Personal accident	14. Personal sickness	15. Personal liability
1.Algeria	yes	yes	yes	yes	–	yes	yes	yes
2.Argentina	yes	yes	yes	yes	–	–	–	–
3.Barbados	yes	yes	–	–	yes	yes	yes	–
4.British Vir.Is.	yes	–	–	–	yes	–	yes	–
5.Burkina Faso	–	–	–	–	yes	–	–	–
6.Cameroon	–	–	–	–	–	–	–	–
7.C.A.R	–	–	–	–	–	–	–	–
8.Chad	–	–	–	–	yes	yes	yes	–
9.China	yes	–	–	–	yes	yes	–	–
10.Colombia	–	–	–	–	yes	–	yes	–
11.Costa Rica	–	–	–	–	–	–	–	–
12.Cuba	–	yes	–	–	–	–	–	–
13.Cyprus	–	–	–	–	–	–	–	–
14.Ecuador	–	–	–	–	–	–	–	–
15.Ethiopia	yes	–	–	–	yes	–	–	–
16.Fiji	–	–	–	–	yes	–	–	–
17.Honduras	yes	yes	yes	yes	yes	yes	yes	yes
18.India	yes	–	–	–	–	–	–	–
19.Indonesia	yes	yes	–	–	–	yes	–	–
20.Iran, Islamic Rep. of	–	–	–	–	–	–	–	–
21.Israel	–	yes	yes	yes	yes	yes	yes	yes
22.Kenya	yes	yes	yes	–	yes	yes	–	–
23.Korea, Rep. of	–	–	–	–	–	–	–	–
24.Libyan Arab Jamahiriya	yes	yes	–	–	yes	yes	–	yes
25.Madagascar	yes	yes	yes	yes	yes	yes	–	–
26.Malawi	yes	yes	–	–	yes	yes	–	–
27.Malaysia	yes	–	–	–	–	–	–	–
28.Malta	–	–	–	–	yes	yes	–	–
29.Mauritius	–	yes	–	–	yes	–	–	–
30.Mexico	–	yes	yes	–	–	–	–	–
31.Morocco	yes	yes	–	yes	–	yes	–	yes
32.Namibia	yes	yes	yes	yes	–	–	–	–
33.Nigeria	yes	yes	–	yes	yes	–	–	–
34.Papua N. Guinea	–	–	–	–	–	yes	yes	–
35.Philippines	–	–	–	–	yes	yes	yes	–
36.Romania	yes	–	–	–	yes	–	–	–
37.Solomon Islands	yes	–	–	–	yes	yes	–	yes
38.Sri Lanka	–	–	–	–	–	–	–	–
39.Sudan	yes	yes	yes	yes	–	–	–	–
40.Tanzania, United Rep. of	–	yes	–	–	yes	yes	–	–
41.Thailand	–	–	–	–	yes	yes	–	–
42.Tunisia	yes	yes	yes	yes	–	–	–	–
43.Turkey	yes	yes	–	–	yes	–	–	–
44.Zimbabwe	yes	yes	yes	yes	yes	yes	yes	–
# (+) replies	23	21	11	11	24	19	10	6
% (+) replies	52	48	25	25	55	43	23	14

B. General information (continued)

	16.	Extent of insurance awareness among						23.	24.
		family farmers			farmers employing outside labour				
	An information agency or office for farmers exists	17. practically non-existent	18. rudimentary	19. knowledge about covers of relevance	20. practically non-existent	21. rudimentary	22. knowledge about covers of relevance	Insurers try to increase insurance awareness / have marketing specific to rural populations	Agents are adequately equipped for marketing insurance in rural areas
1.Algeria	no								
2.Argentina	yes		*	*		*	*	yes	yes
3.Barbados	no			*				no	-
4.British Vir.Is.	yes		*			*	*	yes	yes
5.Burkina Faso	yes	*			*			no	no
6.Cameroon	no	*				*		yes	-
7.C.A.R	no	*				*		no	no
8.Chad	no	*				*		no	no
9.China	no		*			*		no	no
10.Colombia	-		*		-	-	-	yes	yes
11.Costa Rica	-	*			-	-	-	yes	no
12.Cuba	no			*		*		-	-
13.Cyprus	-	-	-	-	-	-	-	yes	-
14.Ecuador	yes		*			*		-	-
15.Ethiopia	no	*			*			yes	-
16.Fiji	no		*		*			yes	yes
17.Honduras	-		*		*			yes	yes
18.India	no		*		*			yes	yes
19.Indonesia	no	*			-	-	-	yes	no
20.Iran, Islamic Rep. of	no	-	-	-	-	-	-	yes	yes
21.Israel	yes			*			*	yes	yes
22.Kenya	-		*		-	*	-	yes	yes
23.Korea, Rep. of	no		*	*	*			yes	no
24.Libyan Arab Jamahiriya	yes							yes	yes
25.Madagascar	yes		*			*		yes	no
26.Malawi	no		*			*		yes	yes
27.Malaysia	yes		*		*			yes	yes
28.Malta	yes	-	-	-	-	-	-	no	no
29.Mauritius	yes		*				*	yes	-
30.Mexico	no			*			*	yes	no
31.Morocco	no	*				*		yes	yes
32.Namibia	yes			*			*	yes	yes
33.Nigeria	yes		*				*	yes	no
34.Papua N. Guinea	no	*			*			-	no
35.Philippines	yes	*					*	yes	yes
36.Romania	no		*			*		yes	yes
37.Solomon Islands	no	*				*		yes	yes
38.Sri Lanka	yes		*		*			yes	no
39.Sudan	no		*			*		yes	yes
40.Tanzania, United Rep. of	yes		*				*	yes	yes
41.Thailand	no	*			*			yes	-
42.Tunisia	no		*				*	yes	yes
43.Turkey	no		*		*			yes	no
44.Zimbabwe	yes	*			-	-	-	no	no
# (+) replies	16	13	21	7	9	16	10	34	21
% (+) replies	36	30	48	16	20	36	23	77	45

B. General information (continued)

	Insurance agents training schemes			Means used in marketing and/or increasing insurance awareness in rural areas								36.
	25.	include training on		28.	29.	30.	31.	32.	33.	34.	35.	
		26.	27.									
	exists	product knowledge	how to sell insurance rurally	sending agents to explain	use of TV and radio	advertisements in newspapers	public talks and discussions	talks to professional bodies	pamphlets and brochures	information by banks and extension services.	sending exhibition vans	Insurers have recently introduced new marketing methods
1.Algeria	yes	yes	yes		*	*		*	*	*		no
2.Argentina	yes	yes	no	–	–	–	–	–	–	–	–	–
3.Barbados	yes	yes	no		*	*				*		no
4.British V.I.	no	–	–	–	–	–	–	–	–	–	–	no
5.Burkina Faso	no	–	–		*	*	*					yes
6.Cameroon	yes	yes	no	–	–	–	–	–	–	–	–	no
7.C.A.R.	yes	yes	no	*								no
8.Chad	no	–	–	–	–	–	–	–	–	–	–	no
9.China	yes	yes	no	*	*		*		*			–
10.Colombia	no	–	–		*	*			*	*		no
11.Costa Rica	–	–	–	–	–	–	–	–	–	–	–	–
12.Cuba	no	–	–	*	*	*	*	*	*			yes
13.Cyprus	–	–	–	–	–	–	–	–	–	–	–	–
14.Ecuador	no	–	–	*			*	*	*	*		no
15.Ethiopia	yes	yes	no	*	*			*	*	*		no
16.Fiji	yes	yes	no	*	*							no
17.Honduras	yes	yes	no	*	*	*		*	*	*	*	no
18.India	yes	yes	no		*	*	*		*			yes
19.Indonesia	yes	no	yes	*			*	*		*		yes
20.Iran, Islamic Rep. of	yes	yes	yes		*		*		*			no
21.Israel	yes	yes	no	*		*						yes
22.Kenya	yes	yes	yes	*	*	*	*	*				no
23.Korea, Rep. of	yes	no	yes	*	*	*			*			no
24.Libyan Arab Jamahiriya	yes	yes	yes		*	*						yes
25.Madagascar	yes	yes	yes	*	*	*	*	*	*	*		no
26.Malawi	yes	yes	yes	*	*	*	*	*				no
27.Malaysia	yes	yes	yes			*	*	*	*	*		no
28.Malta	yes	yes	no	–	–	–	–	–	–	–	–	no
29.Mauritius	yes	–	–				*	*	*			yes
30.Mexico	yes	yes	yes	*	*	*		*	*	*	*	yes
31.Morocco	yes	yes	yes		*							no
32.Namibia	yes	yes	yes	*	*	*	*	*	*			no
33.Nigeria	yes	yes	yes	*	*		*	*	*	*		no
34.Papua N.Guinea	no	–	–	–	–	–	–	–	–	–	–	no
35.Philippines	yes	yes	yes					*	*	*		no
36.Romania	yes	yes	yes		*	*	*	*				–
37.Solomon Is.	yes	yes	yes		*							no
38.Sri Lanka	yes	yes	no						*			no
39.Sudan	yes	yes	yes	*	*		*					yes
40.Tanzania United Rep. of	yes	yes	yes	*	*	*	*	*	*	*	*	yes
41.Thailand	yes	no	yes	*	*	*			*	*	*	no
42.Tunisia	yes	yes	yes			*		*		*		no
43.Turkey	yes	yes	yes	*	*	*	*		*			no
44.Zimbabwe	yes	–	–	–	–	–	–	–	–	–	–	yes
# (+) replies	35	30	21	20	26	21	18	18	21	15	4	11
% (+) replies	80	68	48	45	59	48	41	41	48	34	9	25

C. Crop insurance

389.

	1. In terms of regularity Crop insurance is		2. In terms of coverage the Crop insurance scheme		3. Type of Crop insurance schemes offered		4. The Crop insurance scheme is			5. The Crop insurance scheme is		6. If voluntary, the Crop insurance scheme covers		7. Adverse selection is	
	working on a pilot basis	a regular feature	covers specific regions only	covers the whole country	all risks insurance	insurance of named perils	yield based only	input/investment based	both	compulsory, covering all farmers in a given area	compulsory, for farmers taking credit	voluntary	all applying farmers	certain categories of farmers only	a major problem	not a major problem
1.Algeria	*	-														
2.Argentina		*														
3.China	*	-														
4.Costa Rica		*														
5.Cuba		*														
6.Cyprus		*														
7.Ecuador		*														
8.India		*	-													
9.Indonesia	*															
10.Iran, Islamic Rep. of		*	*													
11.Israel		*		*												
12.Madagascar		*		*												
13.Malawi		*		*												
14.Malaysia		*		*												
15.Mauritius		*		*												
16.Mexico		*		*												
17.Morocco		*		*												
18.Nigeria		*		*												
19.Philippines		*		*												
20.Romania		*		*												
21.Sri Lanka		*		*												
22.Sudan		*		*												
23.Thailand		*		*												
24.Tunisia		*		*												
25.Zimbabwe		*		*												
# (+) replies	4	19	5	18	5	20	9	12	4	3	6	16	16	4	7	6
% (+) replies	16	76	20	72	20	80	36	48	16	12	24	64	64	16	28	24

C. Crop insurance (continued)

	8. Moral hazard: is not a major problem	8. Moral hazard: can be kept within normal limits	8. Moral hazard: is not a problem because: the scheme makes it difficult	8. Moral hazard: is not a problem because: adequate supervision is undertaken	9. Banks/credit institutions require Crop insurance cover when providing credit to farmers	10. Premiums vary with claims experience	11. Loss is determined on an: individual production basis	11. Loss is determined on an: area/district basis	11. Loss is determined on an: both	12. Losses are paid: by insurer to farmer if he is self-financed	12. Losses are paid: directly to banks which had financed the farmer	13. The Crop insurance scheme is operated by: a State-owned body	13. The Crop insurance scheme is operated by: a semi-State-owned body	13. The Crop insurance scheme is operated by: a private company(ies)	13. The Crop insurance scheme is operated by: a pool of insurance companies
1.Algeria	*	*			yes	yes	*				*				*
2.Argentina		-	-	-	yes	-	-				-				-
3.China		*			no	yes	*	-	*	*	*	*		*	
4.Costa Rica		*			no	yes	*				*				
5.Cuba		*			yes	no	*	*			*				
6.Cyprus		*	*	*	no	no	*	*			*				
7.Ecuador		*			-	yes	*		*	*	*	*		*	
8.India		*			yes	-	*				*				
9.Indonesia		*			yes	yes	*				*				
10.Iran, Islamic Rep. of		*			yes	no	*				*				
11.Israel		*			yes	yes	*				*				
12.Madagascar		*			yes	yes	*				*				
13.Malawi		*			yes	yes	*				*				
14.Malaysia		*			yes	yes	*				*				
15.Mauritius		*			yes	yes	*				*				
16.Mexico		*			no	-	*				*				
17.Morocco		*			yes	no	*				*				
18.Nigeria		*			yes	yes	*				*				
19.Philippines		*			yes	no	*				*				
20.Romania		*			yes	yes	*				*				
21.Sri Lanka		*			yes	yes	*				*				
22.Sudan		-			-	-	-				-				
23.Thailand		*			yes	yes	*				*				
24.Tunisia		*			no	yes	*				*				
25.Zimbabwe		*				yes	*				*				
# (+) replies	2	15	5	8	18	14	15	6	3	20	14	10	4	11	2
% (+) replies	8	60	20	32	72	56	60	24	12	80	56	40	16	44	8

C. Crop insurance (continued)

	14. The Crop insurance scheme is: self supporting	funded by payment of additional premium when farm production and prices are high	mixed system, subsidized by other branches	mixed system, subsidized by the government	subsidized by the government	15. If subsidized, the Crop insurance scheme is: secured by a public or government fund: on a regular basis	only in exceptional cases or in case of a catastrophic event	guaranteed by the government from budgetary (public) means	16. Form of subsidy: p = premiums are subsidized; acl = agency/company losses from the scheme are covered	17. Reinsurance: has been sought for crop covers	by international reinsurers	through brokers in the international markets	has been provided through domestic reinsurers	18. The Crop insurance scheme is supported by agricultural extension services for farmers	19. The insurance company applies relatively strict standards regarding the supervision of farming products	20. Other institutions are providing advice and/or supervision to farmers concerning Crop insurance
1. Algeria					•					yes				yes	no	no
2. Argentina	•					.	.	.	.	n/a	.	.	.	no	no	no
3. China		•				.	.	.	.	n/a	.	.	.	no	no	no
4. Costa Rica			•			.	.	.	acl	yes	•	.	.	no	yes	yes
5. Cuba				•		.	•	.	p	no	.	.	.	no	yes	no
6. Cyprus				•		.	.	.	p	no	.	.	.	no	yes	yes
7. Ecuador					•	.	.	.	acl	yes	•	.	.	no	yes	no
8. India					•	.	.	.	pacl	no	.	.	.	.	.	yes
9. Indonesia					•	•	.	•	p	yes	•	.	.	yes	yes	yes
10. Iran, Islamic Rep. of					•	•	.	•	p	yes	•	.	.	yes	yes	yes
11. Israel	•					.	.	.	p	yes	•	.	.	no	yes	no
12. Madagascar	•					.	.	.	.	yes	•	.	.	yes	no	yes
13. Malawi	•					.	.	.	.	yes	•	.	.	.	no	yes
14. Malaysia	•					.	.	.	.	yes	•	.	.	yes	no	yes
15. Mauritius	•					.	.	.	.	yes	•	.	.	no	yes	no
16. Mexico	•					.	.	.	p	yes	•	•	.	yes	yes	yes
17. Morocco		•				.	.	.	p	yes	•	•	.	no	no	no
18. Nigeria			•			.	.	.	.	yes	•	.	.	yes	yes	yes
19. Philippines				•		.	.	.	.	yes	•	.	.	yes	yes	yes
20. Romania					•	.	.	.	p	no	.	.	.	.	yes	yes
21. Sri Lanka					•	.	.	.	acl	n/a	.	.	.	no	yes	yes
22. Sudan					•	.	.	.	p	yes	.	.	.	no	no	no
23. Thailand					•	.	.	.	.	n/a	.	.	.	yes	no	yes
24. Tunisia	•					.	.	.	.	yes	.	.	.	.	.	yes
25. Zimbabwe	•					.	.	.	acl	yes	•	•	.	yes	yes	no
# (+) replies	9	1	2	3	8	6	2	6	9/5	17	12	6	10	10	14	15
% (+) replies	36	4	8	12	32	24	8	24	36/20	68	48	24	40	40	56	60

D. Livestock insurance

390.

	1. In terms of regularity the Livestock insurance scheme is		2. The requirements to obtain insurance are				3. Moral hazard		4.	5.	6. Losses are paid		7. The Livestock insurance scheme is operated by a	
	working on a pilot basis	a regular feature	health certificate issued by a veterinarian	regular check-ups by a veterinarian	both	other	is a major problem	can be kept within limits	Banks/credit institutions require Livestock cover when providing credit to farmers	Premiums vary with claims experience	by insurer to farmer if self-financed	directly to banks which financed the farmer	State-owned company	private company(ies)
1.Algeria	*								yes					
2.Argentina		*	*				*	*	yes	yes	*	*	*	*
3.China		*	*	*	*	*		*	no					
4.Costa Rica		*							yes					
5.Cuba		*				*		*	no	no	*			
6.Ecuador		*	*		*		*	*			*	*		
7.Ethiopia		*		*	*	*		*	yes	no	*	*	*	*
8.India		*	*		*		*	*	yes	yes	*	*	*	*
9.Israel		*		*	*		*	*	no	yes	*	*	*	*
10.Kenya		*							no	yes	*	*	*	*
11.Korea, Rep. of		*		*					no	no	*	*	*	*
12.Madagascar		*			*	*	*	*	yes	yes	*	*	*	*
13.Malawi		*			*		*	*	yes	yes	*	*	*	*
14.Malaysia		*			*		*	*	yes	yes	*	*	*	*
15.Morocco		*			*		*	*	yes	yes	*	*	*	*
16.Mauritius		*			*		*	*	yes	yes	*	*	*	*
17.Mexico		*			*		*	*	no	no	*	*	*	*
18.Namibia		*			*		*	*	no	no	*	*	*	*
19.Nigeria		*			*		*	*	yes	yes	*	*	*	*
20.Philippines		*			*		*	*	yes	no	*	*	*	*
21.Romania		*			*		*	*	yes	yes	*	*	*	*
22.Sri Lanka		*			*		*	*	yes	yes	*	*	*	*
23.Sudan		*			*		*	*	no	no	*	*	*	*
24.Tanzania United Rep. of		*			*		*	*	yes	no	*	*	*	*
25.Turkey		*			*		*	*	yes	yes	*	*	*	*
26.Thailand		*			*		*	*	no	yes	*	*	*	*
27.Tunisia		*			*		*	*	yes	yes	*	*	*	*
28.Zimbabwe		*			*		*	*	no	yes	*	*	*	*
# (+) replies	4	22	7	4	11	3	2	20	15	13	19	13	13	14
% (+) replies	14	79	25	14	39	11	7	71	54	40	68	46	46	50

D. Livestock insurance (continued)

	8. The Livestock insurance scheme is		9. p = premiums are subsidized acl = agency/company losses from the scheme are covered		10. Reinsurance has been provided				11. The reinsurer/broker has been involved in		12.	13.	14.
	self supporting	subsidized by the government	Form of subsidy:	has been sought	by international reinsurers	through brokers on the international market	through domestic reinsurers	establishing/modifying the Livestock insurance scheme	providing regular advice on its features and performance	The Livestock insurance scheme is supported by agricultural extension services for farmers	The insurance company applies relatively strict standards regarding supervision	Other institutions are involved in providing advice and/or supervision to farmers
1.Algeria	*	-	-	n/a	-	-	-	-	-	yes	yes	-
2.Argentina	*	-	-	-	-	-	-	-	-	-	-	-
3.China	*	-	-	n/a	-	-	-	-	-	no	no	no
4.Costa Rica	*	*	acl	yes	*	-	-	-	-	yes	no	no
5.Cuba	*	-	-	no	-	-	-	-	-	no	no	yes
6.Ecuador	*	*	acl	n/a	-	-	-	-	-	yes	yes	yes
7.Ethiopia	*	*	p	n/a	*	-	-	-	-	yes	yes	yes
8.India	*	*	acl	yes	*	*	*	*	-	yes	yes	no
9.Israel	*	*	acl	yes	*	*	*	*	-	no	yes	no
10.Kenya	*	*	acl	yes	*	*	*	*	-	yes	yes	-
11.Korea, Rep. of	*	*	acl	yes	*	*	*	*	-	no	yes	yes
12.Madagascar	*	*	acl	yes	*	*	*	*	-	no	yes	yes
13.Malawi	*	*	acl	yes	*	*	*	*	-	yes	yes	-
14.Malaysia	*	*	acl	yes	*	*	*	*	-	no	no	yes
15.Morocco	*	*	acl	yes	*	*	*	*	-	no	yes	yes
16.Mauritius	*	*	acl	n/a	*	*	*	*	-	no	no	-
17.Mexico	*	*	acl	n/a	*	*	*	*	-	no	no	-
18.Namibia	*	*	acl	no	*	*	*	*	-	yes	yes	no
19.Nigeria	*	*	p	yes	*	*	*	*	-	yes	yes	yes
20.Philippines	*	*	acl	n/a	*	*	*	*	-	yes	yes	-
21.Romania	*	*	acl	no	*	*	*	*	-	yes	yes	yes
22.Sri Lanka	*	*	acl	yes	*	*	*	*	-	yes	yes	yes
23.Sudan	*	*	acl	-	*	*	*	*	-	no	yes	yes
24.Tanzania United Rep. of	*	*	acl	-	*	*	*	*	-	-	-	-
25.Turkey	*	*	acl	n/a	*	*	*	*	-	yes	no	no
26.Thailand	*	*	acl	-	*	*	*	*	-	yes	yes	-
27.Tunisia	*	*	acl	yes	*	*	*	*	-	yes	yes	yes
28.Zimbabwe	*	*	acl	yes	*	*	*	*	-	yes	yes	yes
# (+) replies	18	4	2/3	10	6	3	6	4	5	13	15	10
% (+) replies	64	14	7/10	36	21	10	21	14	18	46	54	36

E. Aquaculture insurance

391.

	1. Aquaculture insurance is offered by a		2.	3. Moral hazard		4.	5.	6. The Aquaculture insurance scheme is	
	government agency or company	private company	Insurance cooperatives sell Aquaculture insurance covers	is a major problem	can be kept within normal limits	Premiums vary with claims experience	Banks/credit institutions ask for Aquaculture cover when providing credit	self supporting	premiums are subsidized by the government
1.China	*		no	-	*	yes	yes	*	-
2.India	*		no		*	no	yes	*	*
3.Israel	*		no		*	no	-	*	
4.Mexico		*	-		*	-	-	-	
5.Thailand	*		no		*	no	-	*	
6.Tunisia		*	-		*	yes	-	*	
# (+) replies	4	2	0	0	5	2	2	4	1
% (+) replies	67	33	0	0	83	33	33	67	17

	7. Reinsurance			8. The reinsurer/ broker has been involved in		9.	10.
	has been sought	has been provided by: international reinsurers	has been provided by: brokers on international markets	establishing and modifying the scheme	providing advice on its features and performance	The Aquaculture insurance scheme is supported by agricultural extension services to farmers	The insurer applies relatively strict standards regarding supervision
1.China	-	-	-	*	*	-	-
2.India	n/a	*		-	-	yes	yes
3.Israel	yes			-	-	yes	-
4.Mexico	n/a		*	*	*	no	-
5.Thailand	yes	*		-	-	no	-
6.Tunisia	yes			-	-	-	yes
# (+) replies	3	2	1	2	2	2	2
% (+) replies	50	33	17	33	33	33	33

Chapter XI

CONCLUDING OBSERVATIONS

Introduction

392. In the preceding chapters numerous operational suggestions whose observance can be of significance have been made. Success often lies in paying attention to small operational details. While these are too many to be recounted here, certain themes emerge that are common to all sectors of agricultural insurance. These can be classified into policy and strategy issues and are reiterated in what follows.

A. Policy issues

1. Developmental role of agricultural insurance

393. National insurance markets have by now been established in most developing countries. Insurance companies, on the whole, have fared well. However, their operations have generally remained confined to urban areas, and there is a need for diversification of operations and exploration of new markets. The rural areas in general and the agricultural sector in particular offer an opportunity for business expansion. Insurance companies in developing countries should be responsive to the opportunities and should take initiatives in this direction.

394. Agricultural insurance has a clear and definite role to play in the development of the rural economy, which will in turn strengthen the national economy. At the same time, the limitations of agricultural insurance should be recognized, and it should not be idealized or romanticized. Insurance is only one of several financial services, and even in the industrial and commercial sectors its role is supportive. Insurance should not be seen or promoted as a solitary effort but as a component of a package of services that need to be extended to the agricultural sector. In fact, agricultural insurance can be most effective if it is conceived and implemented as a part of this broader framework.

2. Agricultural insurance and risk management

395. Agricultural insurance is an important instrument in the strategy of risk management. When properly implemented, it results in a process of identification of risks, their control, avoidance or reduction. This is obviously in the interest of insurance companies and they are generally eager to promote it. Apart from the financial interests of insurance companies, risk management has a broader social aspect as it leads to reduction in wastage of economic resources and prevents environmental degradation. 92/ It is true that plant and animal waste upon decomposition provides valuable nitrogenous material for the soil, but it is important to manage its disposal properly in order to ensure that the process does not lead to insanitary

conditions that pose a health hazard, while at the same time the maximum possible soil enrichment is obtained.

3. Four sectors of agriculture

396. For the consideration of agricultural insurance programmes, it is helpful to conceptualize agricultural activities in four sectors: traditional or subsistence, semi-commercial and emerging, commercial, and specialized production systems. The boundaries are not clearly demarcated and there is often an overlap. This classification is none the less useful as the needs and problems of the different segments vary.

4. Crop insurance schemes

397. Crop insurance is the most significant and prominent of the various lines of agricultural insurance. In the last few decades schemes of comprehensive crop insurance have been initiated in a number of developing countries targeted primarily at the traditional and subsistence sector. Emphasis on these schemes is understandable; there has been obvious social and political concern as well as a necessity to support the lowest strata of the farming community. However, the operating results of these schemes have been negative, and it has been contended that the benefits derived are not commensurate with the resources employed (see para. 64). The schemes have been dependent on a subsidy from the State, with the State paying part of the premium and expenses, and also funding the deficit. Subsidies or State support are not bad per se; what is of relevance is the purpose for which they are given and the way this is done, and whether they are quantified or open- ended. Furthermore, subsidies are given not only for agricultural insurance, but also for many other activities. It is none the less becoming increasingly clear that with the budgetary constraints faced in most of the countries, various subsidies will have to be reviewed in terms of the end results. Those concerned with agricultural insurance schemes should therefore reformulate their strategies so as to move away gradually from a substantial subsidy regime. There are signs that this is taking place in many countries. (For a fuller discussion of the parameters to be kept in view, see para. 88.)

398. The search for a viable and sustainable programme of crop insurance for the traditional or subsistence farmer must continue. Their interests cannot be ignored, not only from a social or political point of view, but on pragmatic considerations. A nation simply cannot afford to allow them to sink further, and insurance has to play its role, among other measures that may be needed to keep them going. Quoting Maurice Chevalier's comment on old age that "after all, it is not so bad when you consider the alternative", an author has commented that the alternative to agricultural insurance would be income and asset fluctuations, a growing delinquency rate and dependence on enhanced internal and external subsidies. 93/

399. A view that is emerging is that a catastrophe cover with a high franchise of, say, 40 to 50 per cent, may be a good option. This suggestion is based on the presumption that a poor farmer is able to survive through normal variations in output by resorting to traditional methods of risk aversion. Furthermore, it is also being realized that, in the monetization

and commercialization process of the rural economy, the role of the informal financial systems should not be totally ignored. 94/ In this context, the basic need of a traditional and subsistence farmer is that of a safety net, so that in the event of a severe set-back in production beyond his control he is not totally disabled and reduced to destitution. The insurance cover as suggested above would meet this situation. It has much to commend it: the premium would be low, the problem of moral hazard would be less, and administration would be simpler and less costly. Which perils to include, or conversely to exclude, will depend upon specificities in a country (meteorological data and behavioural pattern of risks, among others). Generally speaking, the criteria should be weather related. Since the franchise would be high, the risks covered could be reasonably wide. As experience is gained, the programme could be expanded both vertically and horizontally - vertical in terms of the scope of the cover, and horizontal in terms of the area and crops insured.

400. Crop insurance should facilitate the adoption of improved technology by farmers, as risks attendant on advanced production methods and higher investments are now shared. Insurance is also a protection to the financial institutions that give loans to farmers, and should therefore lead to a reduction in the interest rates charged. If this does not occur in practice, there is clearly a need for a stricter examination of the rural financial services.

401. One of the weaknesses of crop insurance programmes is the high cost of implementation. It is important for the scheme to be simple in design and inexpensive to administer. It is also essential for regular reviews and assessment of the programme to be undertaken to rectify the deficiencies noted in the levels of premium and indemnity, and in the loss assessment systems.

402. The net social cost of a public programme of crop insurance could be minimal if the parameters suggested are kept in view. To recapitulate, if: (a) risk management practices are encouraged, (b) adoption of improved farming technology is facilitated, (c) lending terms are improved, (d) environment- friendly measures are initiated, (e) strict control is maintained over the cost of implementation, (f) a periodic review is carried out and levels of premium and indemnity are adjusted on the basis of experience, and (g) a catastrophe-type cover is provided to meet the basic needs of the farmers instead of attempting a costly comprehensive cover, the programme could make a positive contribution to agricultural development.

5. Realignment of the insurance sector for the expansion of agricultural insurance

403. National insurance markets in most developing countries have been established only in the last two decades, and it is not surprising that, by and large, private sector insurance companies have not so far become involved in agricultural insurance to any significant extent. The initiatives taken by parastatal bodies have also acted as a discouraging factor, as they have been seen as pre-empting the scope. The time has now come for private sector insurance companies to extend the boundaries of their operations and pay attention to the insurance needs of the agricultural and rural sectors. They

are, however, unlikely to be effective in providing insurance to the traditional or subsistence sector for three basic reasons: first, their main line of business, servicing the industrial and commercial sector, absorbs their financial and personnel resources. The needs of this sector are also growing. Substantial ground has yet to be covered, particularly if the markets are opened to foreign insurers. Secondly, private sector insurance companies in developing countries are often constrained by a small capital base, and are unlikely to attract additional resources for underwriting agricultural insurance. Lastly, prospects of assured profits in this line of activity are not promising. With greater stress on financial discipline, all that can be expected at best is to break even over the long run. However, to the extent that private insurance companies are willing to be involved in the exercise, they should be encouraged. This has to be done at several levels and should, inter alia, consist of providing a suitable legal framework, offering a level playing field vis-à-vis public sector institutions, and setting up incentive mechanisms. Encouragement to the insurance sector for taking up agricultural insurance could be a feature of a prudent monitoring and regulatory system.

6. Scope of private sector companies

404. Substantial opportunities exist for extending insurance to the commercial and specialized production systems. These sectors are growing and include medium-size farms, those supplying their output to processing units, plantations of tea, coffee, cocoa, rubber and oilseeds, social forestry, cultivation of seeds, horticulture, poultry farming, aquaculture, greenhouses, hydroponic vegetable production, and non-traditional or specialized items for export such as production of vegetables, fruit and flowers under strict quality control. It is also within the reach of private sector companies to provide livestock insurance to groups of cattle kept commercially by dairies, as also to individual farmers. These risks are small and manageable. Private companies have a distinct and special, as also a positive, role to play in these areas. They would have sufficient flexibility in devising suitable products, and in formulating servicing arrangements. It is felt that systematic and organized efforts to extend insurance to commercialized agricultural sectors have not yet been made. The biggest hurdle is apprehension of the unknown. However, new and potentially risky lines of business such as offshore oil rigs and satellite insurance have been successfully managed, and similar inventiveness and detailed planning may be applied to meeting the insurance needs of the rural and agricultural sectors. Besides expansion of business, insurance companies may be able to create a niche for themselves by specializing in a particular line. This may also help in expanding and opening up domestic markets.

7. Role of parastatal insurance organizations

405. The possibilities and the desirability of private sector companies taking up agricultural and rural insurance, particularly for commercialized sectors, does not imply underestimating the role of the parastatal bodies already engaged in this line. They have laid the foundations and have built some infrastructure and expertise, and this should not be lost. Private sector companies have the inherent handicap of a limited capital base. Parastatal bodies, however, must persevere to make their schemes more

effective. This study does not go into the much discussed issue of privatization, but as far as agricultural insurance is concerned it is clear that financial discipline and accountability have to be injected into the operations of parastatal bodies. There is a clear need for the "commercialization" of their operations.

8. Factors inhibiting development

406. Taking a broader view of agricultural insurance in its entirety, three factors that have inhibited its development are: first, a lack of technical knowledge of the operational processes involved; second, inadequate infrastructure and agricultural support services; and, third, difficulties in product development. Agricultural insurance can succeed if companies adopt a technical approach, and the services of veterinarians and other specialists are used. The skills of the persons engaged would also require upgrading from time to time by organizing training programmes and exposing them to international experiences. A viable delivery and servicing system to give shape to the effort has to be created in the form of a network of branches, a trained and motivated marketing cadre dedicated to the development of the rural sector, and support services such as qualified and experienced personnel for survey and assessment of losses. Many developing countries also need help in product development and improvement. While some studies have been made and literature has been published on crop insurance, there is hardly any literature on livestock, poultry, aquaculture, and other lines of agricultural insurance. There is, thus, an urgent need for an enhanced level of exchange of information and experiences. The establishment of a data bank to collect the details of various models developed, to catalogue possible options and alternatives, and to collate and update basic statistics in the field of agricultural insurance should be considered. Research on various aspects of agricultural insurance is also needed.

9. Penetration of insurance

407. It has to be admitted that penetration of insurance in most developing countries is low, and the image of the insurance sector is poor. At the same time, the rural and agricultural sector offers substantial opportunities. However, the development of a new market is a gradual and evolutionary process. The web of agricultural insurance has to be developed patiently, strand by strand. Insurance needs of the various sectors in rural areas have to be analysed, and based on an assessment of effective demand, suitable products have to be devised or existing products simplified and modified. The dynamics are complicated and the components have to be carefully planned. It is important to recognize that the postulates made at the beginning of a programme may not prove to be correct, and there has to be a continual readiness to change and adapt.

B. Strategy issues

1. Beginning with existing lines of business

408. The parastatal bodies and national insurance companies, which are responsible for providing agricultural insurance in many countries, and which have on the whole done good pioneering work, have a certain exposure to and

familiarity with the rural environment. The private sector insurance companies are unlikely to have any worthwhile infrastructure outside the sphere of their primary activities and it will take time and money to create this. In the meantime, a beginning can be made by marketing the existing products, with the necessary modifications. It is worth pointing out that crops, livestock, poultry, and aquaculture are not the only lines of business that can be developed. There is a substantial amount of general business that is relevant to rural areas. Dwellings, stables, stores and shops, equipment and machinery of various types, pump sets, harvesters, threshers and tractors, windmills, solar cookers and heaters, biogas units, handicrafts and household production and the activities of the small sector are a potential source of business. Possibilities in the transport and services sector, storage of produce in cold storage and warehouses, transportation of goods and their export should also be explored. Liability to workmen, accident and hospitalization, and, most importantly, life insurance in a simplified form also offer ample scope. Once a foothold has been established in the countryside and servicing facilities have been built up, it will be easier to introduce products more directly related to agriculture.

2. Linkage with banks and other organizations

409. Banks and insurance companies cooperate with and depend on each other. A linkage and close working arrangement with the banking sector is significant for agricultural insurance. Marketing of insurance is much easier if it is linked to credit. Furthermore, it is also possible to coordinate and integrate part of the administrative work with the banks. This will help in keeping expenses low. This strategy has been implemented in many instances. Other institutions with which linkages would be fruitful are cooperatives, trade associations, suppliers of inputs such as fertilizer, pesticide, seeds and farm equipment, processors of the produce, marketing organizations, extension services of the Government, departments of animal husbandry, fisheries, etc., and research institutions and universities concerned with agriculture. One of the basic requirements for the success of agricultural insurance is that it should be based on technical considerations, and considerable insight can be obtained from these sources. Insurance, on its side would generate data and experience useful to these agencies.

3. Insurance on a group basis

410. Group insurance is rewarding in many ways. Delivery and servicing become easier and administrative costs can be kept low. If the group is sufficiently large and homogeneous, problems of anti-selection, and to some extent the problem of moral hazard, can be mitigated. Insurance on a group basis is therefore an important strategy for extending insurance to agricultural and rural areas. It may be mentioned that when a link is established with a credit or other institutions, usually its several constituents are insured, and they form a group.

4. Step-by-step approach

411. Three further strategies need mentioning. First, insurance products for the rural areas should be simple in design and presentation so that they are

easily understood. As far as possible the intention should be expressed in non-legal and direct language. Second, wherever possible, a package approach should be adopted so that the various covers do not have to be marketed separately. Third, a beginning could be made with simpler and easily administered lines, such as livestock. To start with, a limited cover may be given and, as experience is gained, more complicated types of agricultural insurance can be taken up. While it is true that in developing countries there is a perceptible need to compress the time element, too hasty an approach may lead to failures and disappointments. A gradual and evolutionary process is a good strategy to adopt. It should be stressed that in agricultural insurance the main issue is the ability to service and properly administer the business. This suggests that it will be more advantageous to begin in a small way and then grow, rather than take up big and grandiose schemes with all the attendant limitations.

5. Market-sponsored company

412. One of the limiting factors in the growth of agricultural insurance in developing countries has been the inadequacy of the capital base and underwriting capacity of insurance enterprises, especially in the private sector. To mitigate the situation, several possibilities can be explored. Mutuals and cooperatives may be encouraged in rural areas, and the scope of those already existing can be expanded to provide insurance services to farmers and others. This would reduce pressure on more formally constituted organizations. Schemes geared towards local needs may have better results and would be more likely to reduce problems related to asymmetric information. Further, pools can be established to share the underwriting capacity and marketing talents of existing insurance companies. And, lastly, depending on local conditions, the establishment of a market-sponsored agricultural insurance company could be considered. It will have the benefit of the resources, marketing organization and insurance expertise of the insurance companies in the market. Participation of other financial institutions and related organizations should be sought. Involvement of a foreign organization specializing in agricultural insurance could also be considered. The possibility of obtaining the symbolic support of the State by way of a minority shareholding could be examined.

6. Reinsurance

413. An external possibility of enhancing underwriting capacity is the utilization of the reinsurance market. Reinsurance also provides a degree of financial discipline. However, reinsurance support is available only for technically viable programmes. Furthermore, the international reinsurance capacity for agricultural risks in developing countries is limited, particularly for natural catastrophes. This, in fact, is one of the major factors inhibiting the development of agricultural insurance. Serious thought needs to be given to this aspect. The State can play a significant role by creating additional reinsurance facilities, either by encouraging the establishment of reinsurance companies or directly providing reinsurance.

C. Concluding remark

414. As a concluding comment, it may be stated that the difficulties to be overcome in introducing and propagating agricultural insurance in developing countries should not be underestimated. They are many and formidable. In a number of countries only a few lines have been introduced, and in others while schemes have been devised their scope is limited. A more purposeful thrust will require conscious and concerted efforts and the process should be initiated sooner rather than later.

Notes

1/ United Nations, Report of the Second United Nations Conference on the Least Developed Countries (A/CONF.147/18).

2/ A good diagrammatic description of various risks faced in agricultural operations is given in Nouy, N.J., "The functions of insurance in agricultural development". Paper presented at Panama International Meeting on Crop Insurance (Panama, October 1985). p. 2.

3/ The Challenge to the South, Report of the South Commission (Oxford University Press, 1990), p. 90.

4/ Hogan, A.J., The Role of Crop Credit Insurance in the Agricultural Credit System in Developing Economies, United States Department of Agriculture (Washington, D.C., May 1982), p. 91.

5/ Oury, B., "Crop insurance, creditworthiness, and development", Finance and Development, vol. 7, issue 3 (IMF/IBRD, Washington, D.C., September 1970), p. 39.

6/ Bardsley, P., A. Abey and S. Davenport, "The economics of insuring crops against drought", Australian Journal of Agricultural Economics, vol. 28, No. 1., p. 2.

7/ Joshi, V.C., "Agriculture insurance". Paper presented at Regional Insurance Meeting (Kuala Lumpur, June-July 1991), p. 10.

8/ Besson, M., Information provided by, June 1992. Féderation International du Commerce des Semences.

9/ Newberry, D.M.G. and J.E. Stiglitz, The Theory of Commodity Price Stabilization (Oxford University Press, 1981).

10/ Siamwalla, Ammar, "Approaches to price insurance to farmers" in Crop Insurance for Agricultural Development, Hazell, Peter *et al* (eds.)(Baltimore, John Hopkins University Press, 1986), pp. 178-199.

11/ Outreville, J.-François, "Trade in insurance services", Trade in Services: Sectoral Issues (UNCTAD/ITP/26) (New York, 1989), p. 159.

12/ Schneider, Karl J., Insurance Support to Risk Management of Agricultural Investment in the Near East and North Africa. A report (FAO, Rome, June-July 1991), pp. 14-15.

13/ Report of the Group of Experts on Agricultural Insurance in Developing Countries, convened by the Secretary-General of UNCTAD, (UNCTAD/SDD/INS/4), Geneva, 28-29 January 1993, para. 17.

14/ FAO, Second Expert Consultation on Crop Insurance (Rome, April 1989), p. 7.

15/ Kalumba, Rodney, "Agricultural insurance possibilities of introducing commercially viable agricultural schemes". Paper tabled at Expert Consultation convened by the Secretary-General of UNCTAD (Geneva, 28-29 January 1993).

16/ Dick, W.J.A., Guidelines for the Assessment of Agricultural Projects and Enterprises for Insurance Purposes, Background Paper for GAIF Agricultural Seminar (Damascus, October 1987), p. 6.

17/ Roberts, R.A.J. and W.A.J. Dick, Strategies for Crop Insurance Planning (FAO, Rome, 1991), p. 30.

18/ Tardy, Louis, Report on Systems of Agricultural Credit and Insurance, *Series of League of Nations Publications II. Economic and Financial 1938.II.A.24* (C.479.M.322. 1938.II.A) (Geneva, December 1938).

19/ Crop Insurance for Developing Countries: Study by the UNCTAD secretariat (TD/B/C.3/163/Rev.1) (United Nations Publication, Sales No. E.81.II.D.2), 1981.

20/ Roberts, R.A.J. and W.A.J. Dick, *op. cit* 20/., p. 32.

21/ Abada, Jorge C., "The Philippine Crop Insurance Program: A decade after". Paper presented at VIII TWIC (New Delhi, February 1992), p. 8.

22/ Crop Insurance in the United States (American Association of Crop Insurers, Washington, D.C., 1989-1991), p. 19.

23/ Abada, Jorge C., *op. cit.*, p. 5.

24/ Roberts, R.A.J. and W.A.J. Dick, *op. cit.*, pp. 8-29.

25/ For a detailed discussion of the methodology, see Ray, P.K., A Practical Guide to Multi-Risk Crop Insurance for Developing Countries (Oxford and IBH Publishing Co. Pte. Ltd., New Delhi, 1991), pp. 53-64; and

Hara, Akio, "Actuarial methods in crop insurance", in Crop Insurance for Asian Countries, C.Y. Lee (ed.) (Asian and Pacific Regional Agricultural Credit Association, Bangkok, 1980), pp. 152-187.

26/ Rothschild, M. and J. Stiglitz, "Equilibrium in competitive insurance markets", Quarterly Journal of Economics (Harvard University Press, 1976), pp. 629-664.

27/ Kahane, Y., "Ratemaking of natural risks in agriculture", Journal of Insurance Issues and Practices, 11 (2) June 1988, pp. 83-91.

28/ Amerasinghe, A.R.B., Crop Risk Management in the South Pacific (Bowring Burgess, Marsh and McLennon Ltd., New Zealand, 1984), pp. 271-272.

29/ Rao, P.P., Based on discussions, February 1992.

30/ Arbelaez, Raul, E., "Characteristics and management of the agricultural risk". Paper presented at ALASA Conference, Mexico, November 1991, p. 6.

31/ Ekanaike, C. Mahinda, "Agricultural insurance in Sri Lanka". Paper presented at Asian Productivity Organization Seminar (Tokyo, August 1990).

32/ Ahsan, Syed, M., Agricultural Insurance, A New Policy for Developing Countries (Grower Publishing Co. Ltd., United Kingdom, 1985), p. 19.

33/ Ray, P.K., *op. cit.*

34/ Kasten, Erich, Based on Discussions, April 1992.

35/ Putty, M., Information provided by, June 1992.

36/ Choudhury, Mohammed, Information provided by, October 1991.

37/ Garza, Oscar Terroba, "Role of private companies and of parastatal bodies in agricultural insurance". Paper tabled at Expert Consultation convened by the Secretary-General of UNCTAD (Geneva, 28-29 January 1993), p. 4.

38/ Roberts, R.A.J., Information provided by, May 1992.

39/ Ray, P.K., Agricultural Insurance: Theory and Practice and Application to Developing Countries, 2nd edition (Pergamon Press, Oxford, 1981), p. 31.

40/ Roberts, Cynthia C., Information provided by, October 1991.

41/ Gilboa, D., "Technical Aspects in the management of agricultural risks". Paper presented at ALASA Conference Madrid, September 1989, p. 2.

42/ Dick, W.J.A., *op.cit.*, p. 4.

43/ Gilboa. D., *op. cit.*, p. 2.

44/ Schneider, Karl J., *op. cit.*, p. 10.

45/ Putty, M., "Insurance of agricultural risks". Paper presented at the 7th TWIC Meeting (Dakar, May 1990), p. 14.

46/ Hazell, Peter B.R. "Appropriate function of agricultural insurance in developing countries". Paper presented at Asian Productivity Organization Seminar (Tokyo, August 1990), pp. 11-14.

47/ Jafiya, I.A., Proposal made at the 19th African Insurance Organization Conference (Nairobi, May 1992).

48/ Genevaise, Claude, Information provided by, April 1992.

49/ FAO, Third Expert Consultations on Crop Insurance. Summary and Recommendations (draft) (Rome, May 1992), p. 3.

50/ Kasten, Erich, Information provided by, June 1992.

51/ GATT, "Draft Final Act" (MTN.TNC/W/FA), Annex 2, Text on Agriculture, p.L. 13-18.

52/ UNCTAD, Commodities Division, DPMD section, Information provided by, May 1992.

53/ A survey of commodity risk management instruments has been published by UNCTAD, as document UNCTAD/CD/15 (15 March 1993).

54/ Rohrbeck, W., The cost of insurance in the budget of agriculture", Int. Review of Agriculture, III, A. (Rome, April 1943), p. 142E.

55/ Encyclopaedia of Social Sciences, 1 (1930), p. 547.

56/ Wild, Otto, Information provided by, June 1992.

57/ Syed, M.M., Information provided by, 26 February 1992.

58/ Chavan, S.B., Speech of Finance Minister, Presenting Central Government's Budget for 1989-90. Government of India, 28 February 1989, New Delhi, part B, p. 27.

59/ Carp are believed to have been cultivated in 2000 B.C. in China: Heinz, Thomas., "Aquaculture". Paper presented at ALASA Conference (Madrid, September 1989).

60/ Aquaculture Minutes, No. 7, April 1990. The Inland Water Resources and Aquaculture Service, Fisheries Department, FAO, Rome.

61/ For a fuller account of international investment, see Nash, Colin E., "Investment in aquaculture". Paper presented at the Aquaculture International Congress (Vancouver, September 1988).

62/ Secretan, Par M., "Twenty years of aquacultural losses - the lessons to be learned". Paper presented at SOREMA Symposium (Paris, April 1993), p.1.

63/ Munich Reinsurance Company, Aquaculture, 1989, pp. 56-59.

64/ *Ibid.*, p. 7.

65/ Secretan, Par M., *op cit.* p. 2.

66/ Munich Reinsurance Company, *op. cit.*, pp. 13, 46-52.

67/ Durant, J.P. and K.R. Wilkins, Property Insurance underwriting, The Chartered Insurance Institute, 1991, p. 4/1.2 and 4/18.

68/ Gole, Dory, J., Cuna Mutual Group, Information provided by, March 1992.

69/ Salunkhe, J.S., Based on discussions, June 1992.

70/ Incoterms, 1990, International Chamber of Commerce (Paris, 1990).

71/ African Insurance Reassessment Workshop Recommendations sponsored by UNCTAD/UNDP/AIO (Casablanca, October 1990)

72/ Kurzinger, Nikolaus, "Livestock insurance", Lecture at Munich Re. Training Course on Agricultural Insurance (Germany, July 1990), p. 15.

73/ Mony, S.V., Information provided by, February 1992.

74/ Avalos, Luis, Information provided by, April 1992.

75/ Murr, Karl, Information provided by, April 1992.

76/ Roberts, R.A.J., Information provided by, June 1992.

77/ UNCTAD, "Utilization and commercialization of United Nations system-funded R & D results". A report by the UNCTAD secretariat in cooperation with Mr. Rajiv Kumar (UNCTAD/ITP/TEC/20), October 1991.

78/ Arbelaez, Raul.E., *op. cit.*, p. 3.

79/ Larramendi, I.H., "Agricultural insurance and development - Present and future". Paper presented at 5th TWIC Meeting (Beijing, June 1986).

80/ See UNCTAD, "Cooperative insurance. A suitable form of insurance for developing countries" (TD/B/C.3/138), Geneva, 26 July 1977.

81/ Principles of Cooperation (International Cooperative Alliance, Geneva, March 1992).

82/ Hazell, Peter B.R., of the World Bank has suggested such a set-up to serve the needs of smaller but commercially-oriented farmers. See "Appropriate function of agricultural insurance in developing countries", *op. cit.* A similar suggestion of local societies supported by a national-level body has been made by Amerasinghe, A.R.B., *op. cit.* Also see Mutuku, I.K., "Insurance and reinsurance management in Afro-Asian countries - Problems, prospects and challenges". Paper presented at FAIR Eleventh General Meeting (Pyongyang, September 1989), pp. 11-12. Nouy, J.Y. has also outlined a possible structure for taking care of the insurance needs of farmers in developing countries on a mutual basis: Multiple Risk Crop Insurance - Alternative Solutions (SOREMA, Paris, October 1984), pp. 30-49.

83/ Cooperative Insurance Development Bureau News Services, vol. 3, No. 2, May 1992.

84/ Skipper, Harold D., Information provided by, June 1992.

85/ Marshall, M.M., "Multi-peril crop insurance in the U.S." Paper presented at SOREMA Seminar (Paris, March 1991).

86/ Munkhammar, A. and Themptander, R., "Catastrophe Insurance", The Geneva Papers on Risk and Insurance, No. 31, April 1984.

87/ FAO, Crop Insurance Compendium 1991 (Rome 1992), p. 18.

88/ Neulaender, R., Information provided by, March 1993.

89/ Woodthorpe Brown, Robert, Information provided by, May 1992.

90/ Kohwalt, Heinz, D., "Reassurance of agricultural risks". Paper presented at ALASA Seminar, Madrid, September 1989.

91/ FAO, *op. cit.*, and Information provided by Gibbons, David, I., June 1992.

92/ Gallis-Quednau, M., "Promotion of risk management education and practices in developing countries". Paper presented at an International Symposium on Risk Management in Japan (November 1991).

93/ Mosley, Paul,"Risk, insurance and small farm credit in developing countries: A policy proposal, Public Administration and Development (Chichester, United Kingdom, July-September 1986), p. 318.

94/ Bouman, Fritz, J.A., "Informal rural finance", Sociologica Ruralis, 1990, v. 30 (2), pp. 155-171

A SHORT BIBLIOGRAPHY

Abada, J.C.,
"The Philippine Crop Insurance Program: A decade after". Paper presented at VIII TWIC (New Delhi, February 1992).

Ahsan, M.A.
Agricultural Insurance: A New Policy for Developing Countries (Grower Publishing Company Limited, United Kingdom, 1985).

ALASA,
Proceedings of Symposium on Insurance for Agriculture, 1989, 1990, 1991 and 1993.

Amerasinghe, A.R.B.,
Crop Risk Management in the South Pacific (Bowring Burgess, Marsh & McLennon Ltd., New Zealand, 1984).

American Association of Crop Insurers,
Crop Insurance in the United States, Washington, D.C., 1989-1991.

Asian Productivity Organisation,
Crop Insurance in Asia, Tokyo, 1987 and 1991.

Asian Reinsurance Corporation,
Crop Insurance (Bangkok, 1984); Crop Insurance Practice (Bangkok, 1985).

Bardsley, P., A. Abey and S. Davenport,
"The economics of insuring crops against drought", Australian Journal of Agricultural Economics, vol. 28, No. 1.

Clayton, K.J.
Livestock Insurance (Stone & Co. Ltd., United Kingdom., 1990).

Dick, W.J.A.,
Guidelines for the Assessment of Agricultural Projects and Enterprises for Insurance Purposes, Background Paper for GAIF Agricultural Seminar (Damascus, October 1987).

FAO,
Second Expert Consultations on Crop Insurance (Rome, 1989); Crop Insurance Compendium (Rome, 1992).

Hazell, Peter and others,
Crop Insurance for Agricultural Development: Issues and Experiences (Baltimore, Johns Hopkins University Press, 1986).

Hogan, A.W.,
The Role of Crop Credit Insurance in the Agricultural Credit System in Developing Economies, United States, Department of Agriculture (Washington D.C., 1982).

Joshi, V.C.,
"Agriculture insurance". Paper presented at Regional Insurance Meeting (Kuala Lumpur, June-July 1991).

Kahane, Y.,
"Ratemaking of natural risks in agriculture", Journal of Insurance Issues and Practices, 11 (2) June 1988.

Larramendi, I.H.,
"Agricultural insurance and development - Present and future". Paper presented at 5th TWIC Meeting (Beijing, June 1986).

Lee, C.L.,
Crop Insurance in Asian Countries. Asia and Pacific Regional Agricultural Credit Association (Bangkok, 1980).

Mekonnen, M.,
Rural Insurance in Africa, Ethiopian Insurance Corporation, (Addis Ababa, 1991).

Mosley, Paul,
"Risk, insurance and small farm credit in developing countries: A policy proposal", Policy Administration and Development (Chichester, United Kingdom, July-September 1986).

Munich Re.
Aquaculture, 1989; Crop Insurance: Types, Problems, 1973; Training Course on Agricultural Insurance, 1990.

Mutuku, I.K.,
"Insurance and reinsurance management in Afro-Asian countries - Problems, prospects and challenges". Paper presented at FAIR Eleventh General Meeting (Pyongyang, September 1989).

National Insurance Academy,
Proceedings of Programme on non-traditional Business, (Pune, July 1991).

Nouy, N.G.,
"The functions of insurance in agricultural development"; Paper presented at Panama International Meeting on Crop Insurance (Panama, October 1985).

Oury, B.,
"Crop insurance, creditworthiness, and development", Finance and Development, vol. 7, issue 3 (IMF/IBRD, Washington, D.C., September 1970).

Putty, M.,
"Insurance of agricultural risks". Paper presented at the 7th TWIC Meeting (Dakar, May 1990).

Ray, P.K.
A Practical Guide to Multi-Risk Crop Insurance for Developing Countries (Oxford and IBH Publishing Co. Pte. Ltd., New Delhi, 1991);
Agricultural Insurance: Theory and Practice and Application to Developing Countries, 2nd edition (Pergamon Press, Oxford, 1981);
Economics of Crop Insurance (Central Publishing Concern, Calcutta, (1985).

Roberts, R.A.J. and W.A.J. Dick,
Strategies for Crop Insurance Planning (FAO, Rome, 1991).

Rohrbeck, W.,
"The cost of insurance in the budget of agriculture", Int. Review of Agriculture, III, A. (Rome, April 1943).

Schneider, Karl J.,
Insurance Support to Risk Management of Agricultural Investment in the Near East and North Africa. A report (FAO, Rome, June-July 1991).

SOREMA,
Proceedings of Symposium on Agricultural Insurance (Paris 1991).

Third World Insurance Congress,
Crop Insurance Experience in the World, (Beijing, June 1986).

UNCTAD,
Crop Insurance for Developing Countries: Study by the UNCTAD secretariat (TD/B/C.3/163/Rev.1), United Nations publication, Sales No. E.81.II.D.2, 1981.